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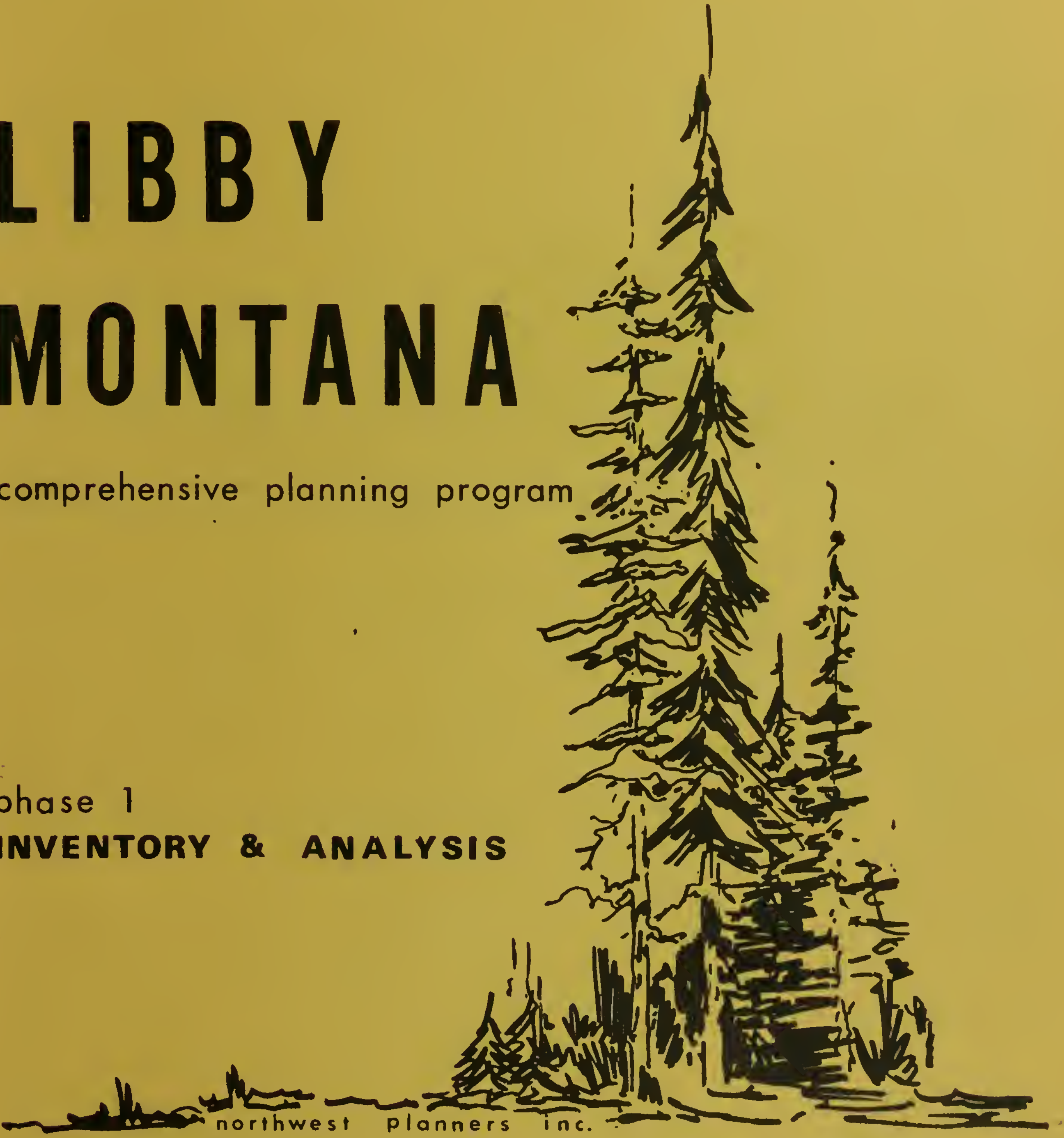
STATE DOCUMENTS

LIBBY MONTANA

comprehensive planning program

phase 1

INVENTORY & ANALYSIS



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COMPREHENSIVE PLAN
for
LIBBY, MONTANA
Contract No. P45 — E1

PREPARED BY

NORTHWEST PLANNERS, INC.
HELENA, MONTANA

Project No. Montana P-45 E-1

Prepared under contract for the Department of Planning and Economic Development, State of Montana, and the Libby City-County Planning Board.

The preparation of this plan was financed in part through the Urban Planning Grant from the Department of Housing and Urban Development, under the provisions of Section 701 of the Housing Act of 1954 as amended.

NORTHWEST PLANNERS *ASSOCIATED*

MEMBERS: A. I. A. A. S. L. A. A. S. C. E. I. T. E.

Libby-Lincoln County
City-County Planning Board
Libby, Montana

Gentlemen:

We are pleased to submit the first phase report of the Libby Comprehensive Planning project. This report, entitled Inventory and Analysis sets forth in usable form, the data which has been collected and analyzed over the past nine months.

This report should be considered a base for community discussion. Although much of the data collected has been aired and discussed at public meetings in the community, there will undoubtedly be more comments and discussion as the planning program progresses toward the development of the final Plan. The data presented herein should form a sound base for projections around which the final Plan can be developed.

The List of Credits of this report lists a few of the many people who unselfishly contributed their time in helping compile the data in this report. We are deeply grateful to the community of Libby as a whole for their interest which made our work most gratifying.

Respectfully submitted,

N J Campeau

N. J. Campeau

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CHAPTER I

AREA CHARACTERISTICS

INTRODUCTION

This report completes the first phase of the development of a Comprehensive Plan for the Libby area. The data and analysis represent a thorough inventory and evaluation of physical and socio-economic conditions as they existed in the planning area at the time the field surveys were made (Fall, 1970). The second phase of the planning process involves the formulation of a Comprehensive Plan which will provide guidelines for the orderly growth of the area over the next twenty (20) years.

Future schools, parks, utilities, and community facilities will be recommended based upon the existing conditions and projected requirements. Many of the facts set forth in this inventory will be obvious or common knowledge to people in the community. It is still necessary to quantify and measure factually the existing facilities and socio-economic conditions in order to evaluate existing and future needs.

The Comprehensive Plan will be in the form of a final report with a condensed version of this report included as background information.

PLANNING AREA

The physical inventory covers an area that extends roughly four and one-half (4 1/2) miles from the Libby city limits.

GENERAL AREA DESCRIPTION

Land

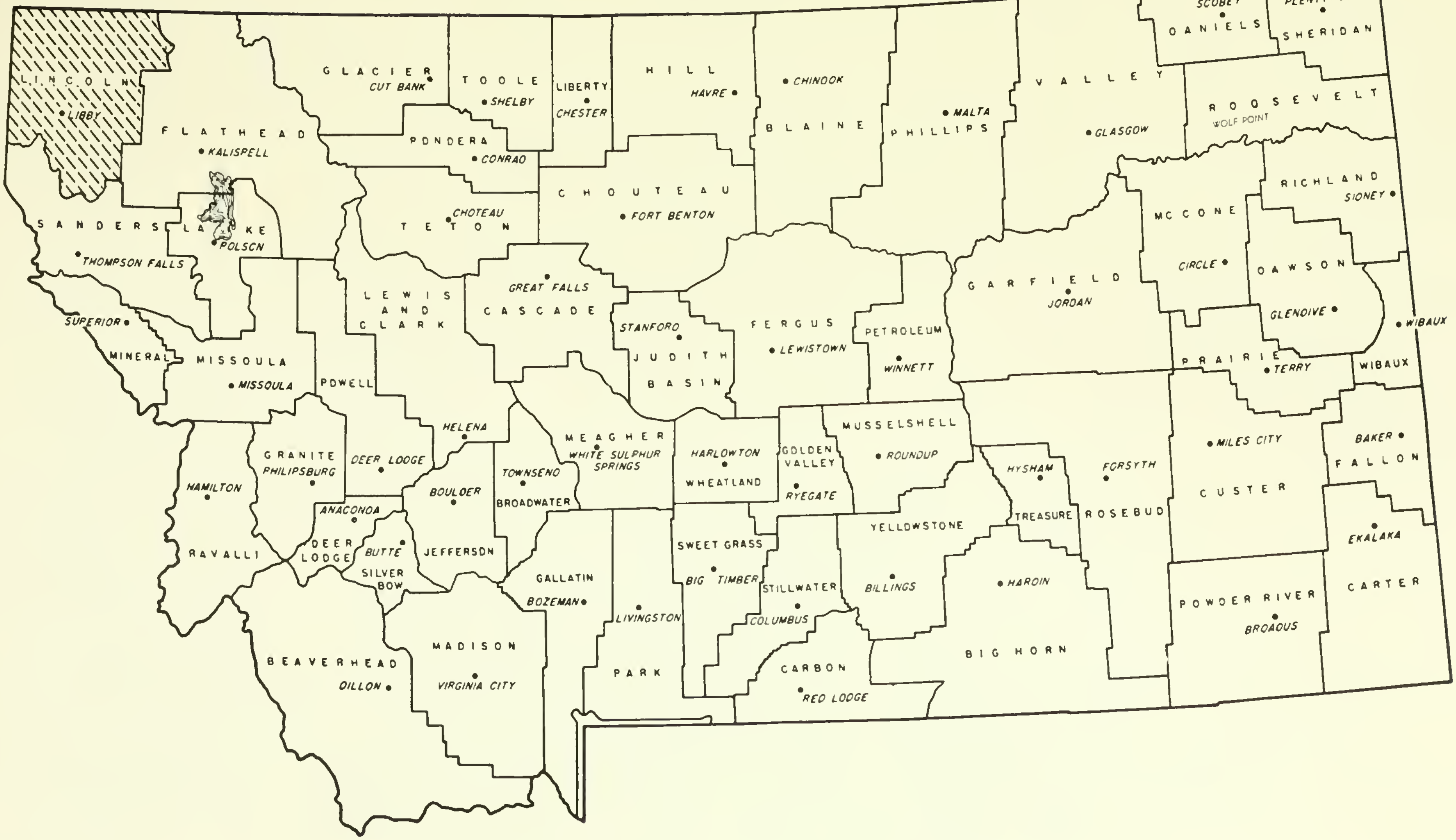
Lincoln County, located in the northwestern corner of Montana, contains 3,660 square miles of land. The county, which still preserves much of the wildness of nature, is generally mountainous country characterized by stands of tall, dense evergreens, high alpine meadows, precipitous peaks, and an abundance of mountain streams. Predominate mountain ranges are the Cabinet Range located in the southwest portion of the county, the Purcell

Mountains in the west and north, the Flathead Mountains on the east, and the Whitefish Range in the extreme northeast corner. The most predominate physical characteristic of the county is the Kootenai River. Entering the county at Gateway from Canada, the Kootenai follows a course south and west through the central part of Lincoln County for approximately 100 miles before flowing into Idaho, just east of Leona. Upon completion of Libby Dam the free flowing nature of the Kootenai through Lincoln County will be interrupted. The 420 foot dam will back up the waters of the Kootenai, flooding land for 90 miles upstream and extending 42 miles into Canada.

Of the 2,294,400 acres of land in Lincoln County, 1,606,139 acres, or 70 percent of the total land, is in the Kootenai National Forest. The Bureau of Land Management has 143,388 acres under its jurisdiction, 65,337 acres are state grant lands administered by the state forester, and 8,320 acres are water areas. The remaining 471,216 acres are distributed among private owners, county holdings, city holdings, and highway right-of-ways. The primary private land owners are the St. Regis Paper Company and the Burlington-Northern Railroad.

Private land holdings are concentrated in four areas: the Tobacco Plains, the Fisher River Valley, the area south of Libby paralleling Highway 2, and the area south of Troy paralleling State Highway 202. Most land in the Fisher River drainage is owned by the St. Regis Company and the Burlington-Northern Railroad. A small amount of land along the Kootenai River, north of the Libby Dam site, was in private ownership, but was acquired by the Corps of Engineers. The Libby Dam project will require approximately 43,000 acres of land, of which 28,000 acres is in private ownership.

MONTANA


LINCOLN
LIBBY
FLATHEAD
KALISPELL
GLACIER
CUT BANK
TOOLE
SHELBY
LIBERTY
CHESTER
HILL
HAVRE
CHINOOK
BLAINE
MALTA
PHILLIPS
VALLEY
GLASGOW
SCOBEY
DANIELS
PLENTYWOOD
SHERIDAN
ROOSEVELT
WOLF POINT
RICHLAND
SIDNEY
PONDERA
CONRAD
CHOUTEAU
FORT BENTON
SANDERS
LAKE
POLSON
THOMPSON FALLS
CHOTEAU
TETON
MC CONE
CIRCLE
DAWSON
GLENDIVE
GARFIELD
JORDAN
LEWIS AND CLARK
GREAT FALLS
CASCADE
STANFORD
JUDITH BASIN
FERGUS
LEWISTOWN
PETROLEUM
WINNETT
SUPERIOR
MINERAL
MISSOULA
MISSOULA
POWELL
WIBAUX
WIBAUX
PRAIRIE
TERRY
HELENA
MEAGHER
WHITE SULPHUR SPRINGS
HARLOWTON
WHEATLAND
GOLDEN VALLEY
RYEGATE
MUSSELSHELL
ROUNDUP
HYSHAM
TREASURE
FORSYTH
ROSEBUD
MILES CITY
CUSTER
BAKER
FALLON
HAMILTON
RAVALLI
GRANITE
PHILIPSBURG
DEER LODGE
TOWNSEND
BROADWATER
BOULDER
JEFFERSON
ANACONDA
DEER LODGE
BUTTE
SILVER BOW
SWEET GRASS
BIG TIMBER
STILLWATER
COLUMBUS
YELLOWSTONE
BILLINGS
HARDIN
BIG HORN
EKALAKA
CARTER
POWDER RIVER
BROADUS
GALLATIN
BOZEMAN
LIVINGSTON
PARK
CARBON
RED LODGE
BEAVERHEAD
DILLON
MADISON
VIRGINIA CITY

Most population settlement and development in Lincoln County has taken place in the four areas of private land ownership. The major transportation facilities in the county are located in these areas. U. S. Highway 2 enters the county in the southeast corner and follows the Fisher River for approximately twenty-five (25) miles. It then heads in a northwesterly direction, going through Libby and the southern portion of the county. U. S. Highway 93 crosses the northeast corner of Lincoln County through the Tobacco Plains. The main northern line of the Burlington-Northern Railroad crosses the county from east to west, generally paralleling the Fisher River and Wolf Creek in the east and paralleling the Kootenai River in the west.

The largest towns in Lincoln County are Libby, Troy, and Eureka. Eureka was for many years one of Montana's chief lumbering centers. Although lumbering has gradually declined, timber production is still significant. Christmas tree production around Eureka has increased to such an extent that the town is called the "Christmas Tree Capitol of the World." Troy was formerly a very important division point for the Great Northern Railroad, but has lost much of its prominence since the rise of Hillyard, Washington as the chief railroad center. Other small towns and rural communities in Lincoln County include Fortine, Stryker, Trego, Yaak, Rexford, and Warland. Rexford and Warland will be relocated as a result of the creation of Libby Reservoir.

Climate

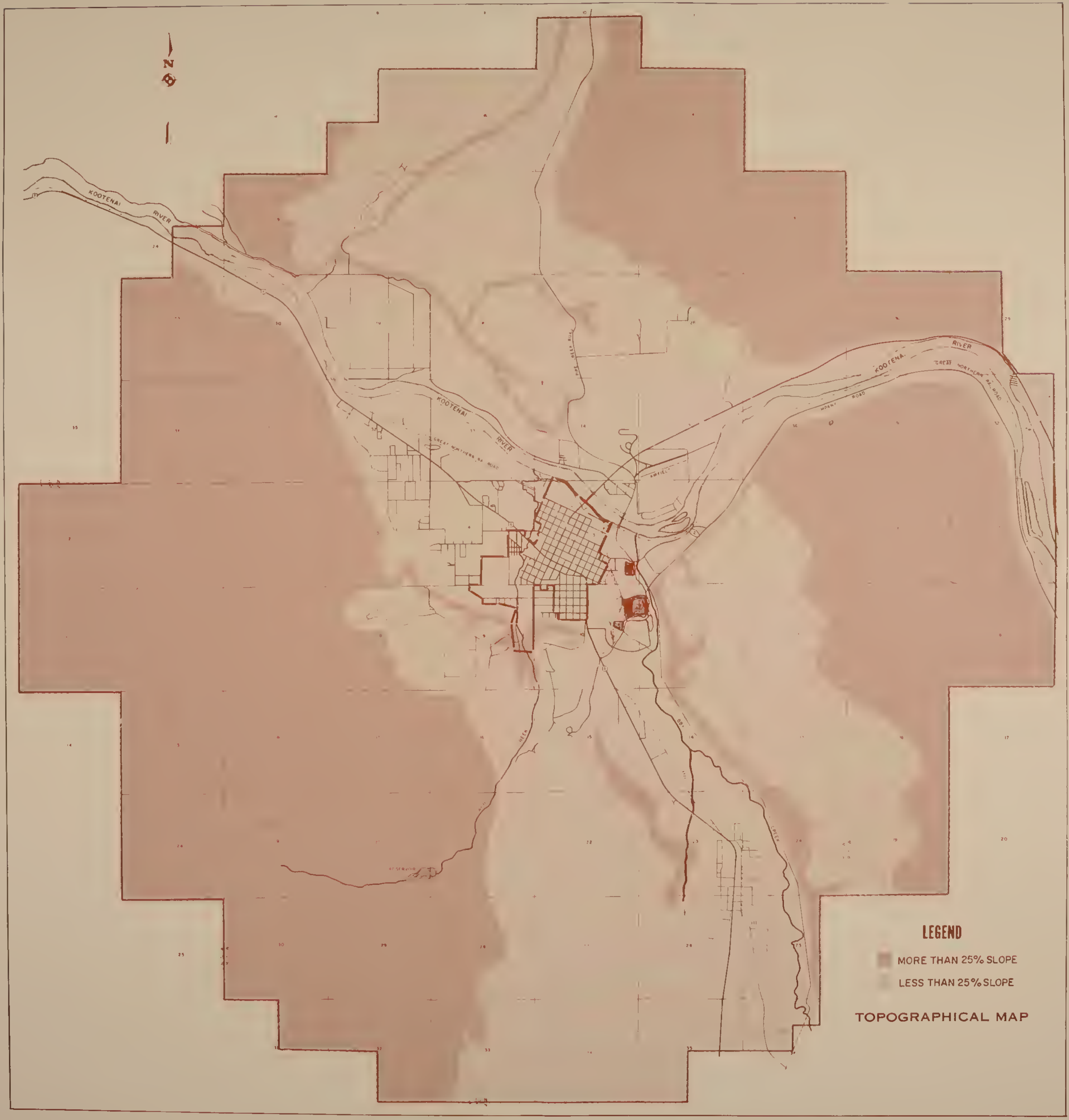
Elevations in Lincoln County range from nearly 8,000 feet on a few of the higher peaks to just over 1,800 feet where the Kootenai River enters Idaho, the lowest point in Montana. The topography in the county is generally mountainous, lying between elevations of 3,000 - 5,000 feet.

Several river valleys, among them the Kootenai River Valley, the Fisher River Valley, and the Tobacco Plains around the Tobacco River, add contrast to the mountainous terrain. Most of these valleys are sheltered by rugged mountains; destructive winds are rare for most populated portions of the county. The mountainous character of the county, and the wide variations in altitude, produce large variations in climate.

Of all Montana counties, the climate of Lincoln County most resembles the Pacific Maritime type; however, the continental conditions of cold winter and warm summers alter the general pattern at least a few days each year. Temperatures range from a January average of 16.3° at Eureka and 22.0° at Libby to a July average of 61.2° in the foothills of the Cabinet Mountains and 67.5° at Libby. Annual temperature averages range from 40.7° in the Cabinet Mountain Foothills to 45.2° at Libby. Summer days can be hot, especially in the Kootenai Valley, with several days over 95° each year. Libby has recorded a high temperature of 109°. Cold winter days are much less common than the warm days of midsummer. At Libby temperatures reach as cold as 0° only 12 days during an average year.

Due to the mountainous topography, a large daily variation between high and low temperatures occurs, resulting in a fairly short growing season for tender vegetation. At Libby, the frost-free growing season averages 79 days. As a result of light freezes, most natural vegetation in the region is of hardy varieties. The freeze-free seasons are longer at Libby than in most of the lateral valleys, branching off of the Kootenai.

Precipitation is abundant for most of the county, in comparison to most of Montana. Precipitation ranges from 12.65 inches at Eureka to



TOPOGRAPHICAL MAP

18.47 inches at Libby to 26.56 inches in the foothills of the Cabinet Mountains. Most mountain sections receive over twenty (20) inches of moisture during the year, including several hundred inches of snow, with the heaviest snowfalls occurring on the prevailing windward, west to southwest, slopes in most years. This mountain snowfall causes the pronounced spring and early summer runoff maximums observed on all streams in the county which originate in the mountain areas. Snowfall in the valley bottoms averages 50 to 60 inches. Approximately two-thirds (2/3) of most of the county's precipitation falls in the winter months. In the drier Tobacco Plains region around Fortine and Eureka, however, the yearly precipitation has continental climate characteristics, with a little more than half the yearly precipitation falling during the April-September growing season. Lincoln County has a much lower thunderstorm frequency than counties to the east, with generally less forceful storms when they do occur.

Winters are cloudy much of the time with sky cloud cover averaging 80 to 90 percent in midwinter. The cloudiest sections are over the mountains, with the least cloud cover in the drier northeast corner. Summers are usually clear with midsummer cloud cover as low as 30 percent in some areas. July rainfall at Libby averages 0.63 inches. Oppressive heat and humidity combinations are rare, and on the warmest days humidity will usually run not more than 20 to 30 percent.

Water

"Water is undoubtedly the most valuable resource on the public land of Lincoln County."[1] The Kootenai River is a major tributary of the

---

[1] Water Resources Survey - State Engineer's Office, June, 1965, Helena, Montana, Lincoln County, p. 19.

Columbia River system. Important tributaries of the Kootenai River in Lincoln County are the Yaak River, the Tobacco River, and the Fisher River. Other tributaries providing a year round source of water for irrigation, livestock, and municipal needs are Fortine Creek, Grave Creek, and Granite Creek near Fortine, Flower Creek near Libby, and Lake Creek and Callahan Creek near Troy. Water stored in heavy snows on mountain slopes is released into these and other streams during the warmer months and is the primary source of water for irrigation, power production, domestic, and industrial needs in the local area as well as throughout the Columbia River Basin. The domestic water supplies of Fortine, Eureka, Troy, and Libby come from the Kootenai National Forest watershed lands.

Recognizing the importance of a continued supply of pure water, the Forest Service gives first consideration to maintaining favorable soil-water conditions in all resource management and planning decisions. The maintenance of conditions that will provide for the continued flow of pure water from areas in Lincoln County should be a prime consideration in all planning decisions affecting area. All timber cutting practices and road construction should have adequate provisions for preventing harmful erosion and stream pollution. Wildfire prevention and suppression, balancing the number of livestock against available forage, maintaining wildlife numbers within the support capacity of the lands, control of insect and disease damage to the watershed, proper treatment of industrial and domestic sewage, and proper placement of subdivisions and other developments all contribute to water resource use and watershed protection. In recognition of this valuable resource, the Water Pollution Control Council has classified the Kootenai River drainage and its tributaries as B-D or better. That is, the quality of these waters shall be maintained suitable for drinking and culinary and food processing purposes after adequate treatment equal to coagulation, sedimentation, filtration, disinfection, and any additional treatment necessary to remove natural impurities. Also, the water shall be of such purity to allow for bathing, swimming, and the growth and propagation of salmonid fishes and associated aquatic life, waterfowl, and furbearers. At least the above degree of purity shall be maintained throughout the county, except that Rainy Creek, from the Zonolite Company water supply intake to the Kootenai River, need maintain a purity level that may result in only a marginal level of propagation for salmonid fisheries and associated aquatic life, waterfowl, and furbearers.

Timber

The most obvious resource in Lincoln County is the large stands of timber that cover nearly ninety-seven (97) percent of the county. Four out of every five acres of timber is classified as commercial timber, of which three-fourths (3/4) is under National Forest management, one-fifth (1/5) in private ownership (generally St. Regis Paper Company), and the remaining five (5) percent controlled by the state, county, and Bureau of Land Management. About two-fifths (2/5) of the commercial forest is in stands of saw timber, with the remainder composed of second growth poles, saplings, and seedlings. Saw timber is composed of ten species: Western Larch (Tamarack), Douglas Fir, Engelman Spruce, Ponderosa Pine, Western White Pine, Lodge Pole Pine, Alpine Fir, Western Hemlock, Western Red Cedar, and Grand Fir. The most valuable of the commercial species are the White and Ponderosa Pine, but these species comprise only one-fourth (1/4) of the commercial timberstands. Western Larch, Douglas Fir, and Engelman Spruce make up about two-thirds (2/3) of the volume of commercial timber.

Some of the best Ponderosa Pine growing sites in the world are found within Lincoln County. Some of these sites will be destroyed by flooding as Libby Reservoir is filled. The introduction, from Europe, of the White Pine blister rust has practically destroyed the vast White Pine forests of northern Idaho. Blister rust has caused such havoc with this species that it is no longer reproducing or being replanted. Significant amounts of money have been spent and research is continuing to breed resistance to this disease into new stocks of White Pine. If these attempts are successful, White Pine may again be the most valuable species found in the region.

In addition to the saw timber, a considerable volume of minor products are also produced from the forest in Lincoln County, consisting chiefly of poles, pilings, ties, pulpwood, and Christmas trees. Production of these products may be greatly expanded, as they come chiefly from the less valuable species such as Lodgepole Pine, Western Red Cedar, Engelman Spruce, and Alpine Fir. Lumbering is the principle industry in Lincoln County and is the largest employer and source of income. Production of 172,000,000 board feet of timber each year from National Forest land plays an important part in this industry. The St. Regis Paper Company, the major consumer of timber, is the largest lumber manufacturing plant in Montana.

Mining

Mining activity in Lincoln County has been extensive, but with the exception of vermeculite mining little activity has taken place within the last thirty years. In earlier periods considerable amounts of gold ore were mined, as well as sizable quantities of silver, lead, zinc, and copper. The primary areas for metallic ore mining are located near Libby in the Libby-Troy-Sylvinite districts.

The most important mining activity in the county has been in the extraction of vermiculite. The largest vermiculite deposit in the United States is located nine (9) miles northeast of Libby and operations at this area are presently the largest of their kind in the world. The mine is an open pit operation which operates continually throughout the year. Although vermiculite has been mined at Libby since 1923, the greatest growth of this industry has occurred in the last twenty years. The major uses of vermiculite are as masonry fill, insulation, and as a lightweight aggregate. Vermiculite mined at Libby is shipped throughout North America. The vermiculite industry is a major economic contributor to the Lincoln County economy, employing about 150 persons on a year round basis.

Agriculture

Agricultural activity in Lincoln County is limited due to the extensive area occupied by timber resources. As a result, almost all agriculture producers have some timber or timber products along with their agricultural commodities. Many ranchers and farmers are also in woodlot and Christmas tree management. The practice of plantation Christmas tree culturing is a rapidly expanding industry.

The largest agricultural area is the Tobacco Plains, which is virtually the only part of Lincoln County completely clear of timber. The climatic characteristics in this area create a favorable precipitation pattern for the growing of crops. Lake Irrigation District, the largest such district in the county (consisting of 2,267 acres of potentially irrigable land) serves this area. Additional agricultural lands occur in the Yaak Valley and the Fisher Valley. Little farming is done along the Kootenai because of its narrow river valleys.

There are 11,500 acres of dry cropland, 3,000 acres of tame pasture, 40,870 acres of rangeland, and 530,000 acres of woodland in the county.

It is estimated that about 7,000 acres can be irrigated. Grazing allotments on the Kootenai National Forest provide forage for approximately 2,400 cattle. Due to rapid regeneration of timber on forest lands, grazing is transitory. Major agricultural commodities produced in the county include: beef cattle, sheep, swine, hay, and grains, with some horticultural fruits and vegetables grown for local consumption. Cash crops produced are small grains. The majority of the cattle produced are of the Hereford breed.

Soils

Soil data is useful in predicting potential foundation or drainage problems which might be encountered in various development projects and as an aid in determining the optimum use of a parcel of land. Unfortunately, detailed soil data is lacking for the jurisdictional planning area. Even though specific characteristics or development limitations of each soil type is not available, a general evaluation of soil groups in the county can be made. This evaluation provides information on broad vegetational types which might occur on soil in a given group. More detailed information on the soils in the planning area is expected in the near future and will be included in the final plan report.

Soils are formed by an interaction between parent material (bedrock), climatic conditions, and vegetational and animal material. The different soils are formed by the variations in parent material and climate that exist in different areas. The distribution of soil groups results from the difference in locale as well as physiographic and drainage characteristics and the length and force of glaciation. Slope, water, and ice have moved large amounts of surface material in Lincoln County throughout the ages and have significantly affected the distribution of soil groups in the county.

Six great soil groups are represented in Lincoln County: alluvial, chestnut, chernozem, solidized-solenetz, gray wooded, and brown podzolic oils. Alluvial soils are young soils occurring along streams and valley bottoms. The parent material usually consists of rock and other materials deposited by water or glacier action. This material has undergone only limited modification, resulting from the accumulation of organic material. These soils are usually used for production of grain and hay and are often irrigated.

The chestnut and chernozem soils are usually associated with plains or tall grass regions. They are developed in areas with 10-16 inches annual precipitation and usually have a clayey, prismatic subsoil. Lime accumulation is usually found at a depth of 10-25 inches below the surface in chestnut soils and somewhat deeper in chernozem. The lime horizon may extend to a depth of 50 inches. These soils are usually rich and fertile and produce grain, hay, and native range grasses.

Solodized-solonetz soils often are found in association with chestnut soils. These soils generally occur only over small areas. A thin platey surface, often bleached, over a dense hard clay-pan subsoil is characteristic of solodized-solonetz soils. A lime zone is usually found below the clay-pan subsoil. These soils can often be located because they produce stunted plant growth compared to the chestnut soils. Greasewood is a characteristic plant of this soil group in the natural state.

Gray wooded soils and brown podzolic soils are both found in mountainous regions. Gray wooded soils are developed in areas where annual precipitation averages 12-25 inches, while brown podzolics are usually developed under an annual precipitation of 25-50 inches. The gray wooded soils are characterized by a dark or a light gray to white layer under the surface and a subsoil three to four inches thick. The brown podzolic soil is characterized by a brown or reddish brown layer just beneath the surface and may extend 12 inches in depth. Both soils are usually found under coniferous forests.

In general, no major development problems have been encountered with Lincoln County soils. Their chemical nature is favorable to pipes and concrete. The large amounts of alluvial soils provide an abundance of water and rapid percolation. A high water table often exists in many alluvial soils and is a hazard with septic tank operation due to insufficient drainage depth and subsequent ground water contamination.

Recreation

National increases in population, spendable income, mobility, and leisure time in recent years have all contributed to substantial increased demands for outdoor recreation. The fact that recreational use will play an important role in Libby's economic future is born out statistically by the number of recreational visitor days in the Kootenai National Forest, which increased from 170,000 in 1965 to 358,100 in 1969, an increase of 111 percent over the five year period.

It is apparent that resource conservation and open space acquisition must be accelerated if the outdoor recreation needs of future generations are to be accommodated.

The outdoor recreation resources in the Libby area consist primarily of natural forest areas and wildlife. There are over 1,000 miles of Forest Service roads in the county, making many of the more remote areas accessible by car.

Major recreational opportunities that have a direct effect on the planning area include the following: Turner Mountain Ski Area - located 23 miles north of Libby (this facility consists of a 5,600 foot T-Bar lift on a main run which rises 2,800 feet in elevation), and Libby Dam (located 17 miles northeast of Libby, this facility will have the greatest impact upon Libby's recreational potential. Twenty-three sites along the reservoir have been selected for development as public access and recreational areas). Recreational facilities within the planning area are covered in the parks section of this report.

CHAPTER II

POPULATION AND ECONOMIC BASE

POPULATION

Lincoln County's population, at the time of the first U. S. Census of the area, was 3,638 persons. Except for the decade between 1920 and 1930, when there was a slight decline, the county has shown continued population growth. By 1970 the county population numbered 18,063, a figure that represented an increase of more than 5,500 persons over the 1960 total.

The rate of population increase in both of the last two Census periods has been 44 percent. As shown in Table 1, the rate in both periods was considerably greater than that of the state as a whole. In the sixty years since Census figures have been available for the county, its share of Montana population has steadily grown. It was 0.9 percent in 1910 and 2.6 percent in 1970.

U. S. Census data has only been available for the City of Libby since 1930. In that year the city had 1,752 residents. The city has also shown continued growth. By 1970 Libby's population numbered 3,286 persons.

The 1960-1970 increase in the city amounted to some 458 persons. Although the rate of growth in this period was substantial and more impressive than that of the state, the 16 percent gain was considerably less than the remainder of Lincoln County, which recorded a 40 percent gain. Table 1 points out that Libby's share of Lincoln County population has shown a steady decrease since 1950.

TABLE 1

POPULATION CHANGE, 1900-1970

Year	State	Lincoln County	Libby	County % State	Libby % Cty.	Percent/Year Change		
						State	County	Libby
1900	243,329							
1910	376,053	3,638		0.9		54.5		
1920	548,889	7,797		1.4		46.0	114.3	
1930	537,606	7,089	1,752	1.2	24.7	-2.1	-9.1	
1940	559,456	7,882	1,837	1.4	23.3	4.1	11.0	4.9
1950	591,024	8,693	2,401	1.5	27.6	5.6	10.3	30.7
1960	674,767	12,537	2,828	1.9	22.6	14.2	44.2	17.8
1970	694,409	18,063	3,286	2.6	18.2	2.9	44.1	16.2

Source: U. S. Census

In addition to Libby, there are three incorporated places in Lincoln County. These include Eureka, Troy, and Rexford. The 1960-1970 population changes for these three communities, as well as for the unincorporated parts of the Census Divisions in which they lie, are shown in Table 2. As a group, the incorporated places of the county grew by 17.5 percent in the decade just past. This was much less than the gain in the unincorporated areas. Unincorporated area population in Lincoln County grew by 61 percent between 1960 and 1970.

The most important feature evident in Table 2 is the growth of the unincorporated section of the Libby Census Division. More than 4,200 people located here in the 1960-1970 period. The growth rate in the area was almost 94 percent. This particular area of the county accounted for more than three-fourths of the entire ten year increase. It is in the rapidly urbanizing area that most of the county's planning problems have been and will be located.

TABLE 2

POPULATION BY CENSUS DIVISION, 1960 and 1970

Division	1960	1970	Change	% of Change
Eureka Division	3,054	3,558	504	16.5
Eureka Town	1,229	1,195	-34	-2.8
Rexford Town	-----	243	243	----
Unincorporated	1,825	2,120	295	16.1

TABLE 2 (Cont.)

POPULATION BY CENSUS DIVISION, 1960 and 1970

Division	1960	1970	Change	% of Change
Libby Division	7,347	12,045	4,698	63.9
Libby City	2,828	3,286	458	16.2
Unincorporated	4,519	8,759	4,240	93.8
Troy Division	2,136	2,460	324	15.2
Troy Town	855	1,046	191	22.3
Unincorporated	1,281	1,414	133	10.3
Total Incorporated	4,912	5,770	858	17.5
% of County	38.2	31.9		
Total Unincorporated	7,625	12,293	4,668	61.2
% of County	61.8	68.1		
Total County	12,537	18,063	5,526	44.1

Source: U. S. Census

Libby, with a population of more than 2,500, is the only community in Lincoln County considered as "urban" by the Census definition. The other incorporated places are grouped with unincorporated population as "rural". The Census also differentiates between farm and non-farm population in the overall rural category. Table 3 shows the changes in rural population in Lincoln County between 1950 and 1960. Data for 1970 on farm population is not yet available.

TABLE 3

CHANGES IN THE COMPOSITION OF RURAL POPULATION

	STATE				LINCOLN COUNTY			
Year	Total Rural	Farm	Non-Farm	% Farm	Total Rural	Farm	Non-Farm	Farm
1950	332,990	135,939	197,051	40.8	8,693	1,867	6,826	21.5
1960	336,310	105,598	230,712	28.4	9,709	833	8,876	8.6
1970	232,733	NA	NA	NA	14,777	NA	NA	NA

Source: U. S. Census

Between 1950 and 1960, the total rural population increased by 1,016 people. Farm population, however, decreased. This was in line with statewide and national trends. In Lincoln County the decrease amounted to more than 1,000 persons. The increase in rural population then was due entirely to the non-farm gain. As shown by the table, less than ten percent of the rural population was considered as being farm population in 1960.

Although 1970 figures are not yet available, there is little doubt that this trend has continued through the past ten years. Population in Lincoln County is becoming increasingly suburban in character and, as noted, it is in such areas that problems arise.

Population Characteristics

The population in Lincoln County and in Libby, as in Montana as a whole, is relatively young. Median age data is not yet available from the 1970 Census. However, in 1960 the median age throughout the county was 24.8 years, while in the state it was 27.4 years.

Changes in the age structure of the county and Libby between 1960 and 1970, shown in Table 4, indicate that in both areas the greatest increases have occurred among the young adult and working age groups. Smaller gains were shown in the pre-school and retirement age population.

TABLE 4

NUMBER OF PERSONS BY MAJOR AGE GROUP

	NUMBER		INCREASE 1960-70	
Age Group	County	Libby	County	Libby
Under 5	1,750	373	43	48
5 - 14	4,394	617	1,479	-25
15 - 18	1,757	346	842	147
19 - 34	3,589	630	1,268	169
34 - 64	5,585	1,036	1,821	75
65 +	988	284	73	44

Source: U. S. Census

Changes in the relative importance of the various age groups are shown in Table 5 which also compares the percentage distribution in Libby with that of the county and state for 1970. Between 1960 and 1970, the 6 - 13 and 35 - 64 age groups in the city decreased in terms of their share of the total. The 14-18 and 19-34 age groups increased, while the pre-school and retirement age populations remained essentially the same.

TABLE 5

PERCENTAGE DISTRIBUTION OF MAJOR AGE GROUPS

Age Group	LIBBY 1960	LIBBY 1970	COUNTY 1970	STATE 1970
0 - 5	11.5	11.3	9.7	8.2
6 - 13	22.7	18.7	24.3	21.7
14 - 18	7.0	10.5	9.7	10.2
19 - 34	16.3	19.1	19.9	18.9
35 - 64	34.0	31.8	30.9	31.1
65 +	8.5	8.6	5.5	9.9

The greatest differences in the age composition in Libby as compared to the county or state was in the considerably smaller percentage of population in the 6-13 age bracket. In Lincoln County as a whole this group accounted for 24.3 percent of the population in contrast to a figure of 18.7 percent in the city. Another significant difference was in the relatively small percentage of persons over 65 when compared to the state. The percentage in Lincoln County was even lower, with less than 6.0 percent in this category.

The number of persons per household in Libby in 1960 was 3.29. In Lincoln County the figure was 3.45, while in the state there was an average of 3.25 persons per household. By 1970 the persons per unit in Libby had changed only slightly, to 3.26, while in the county there was a decrease to 3.40.

Data on population mobility is not yet available from the 1970 Census. With an increase of more than 5,500 people in the county and more than 450 in the city, it is apparent that there has been considerable in-migration and that the 1950-1960 trend has continued. In 1960 some 2,400 people of the 12,537 county residents reported that they had been in a different county in 1955, while some 1,500 came from other states or abroad. Only 40 percent of the county's 1960 residents lived in the same house that year as they did in 1955.

Income data from the latest Census is also unavailable at this time. However, information is available from Sales Management, a marketing periodical, which is suitable for examining general income trends. These trends for the state and for Lincoln County are shown in Tables 6 and 7. While there is no specific data for Libby, the Lincoln County information is generally applicable.

The median family income in Lincoln County in 1959 was considerably higher than that throughout the state. In that year, the median family income for the county was $5,483 in contrast to a figure of $4,502 for all of Montana. In the ten year period from the previous Census, the Lincoln County income figure increased by $2,946, more than 100 percent, while the state recorded a gain of $1,775 per family. As indicated in Table 6, in both the county and the state there was a general upward shift in incomes with fewer persons in the lower brackets and corresponding increase in the higher income categories. The increase in the number of families in Lincoln County with incomes greater than $10,000 was particularly significant.

The estimates of Sales Management for 1969 indicate that this upward shift has generally continued in the state. Approximately 23 percent of the state's families had incomes in the lowest level, less than $3,000 in 1969 in contrast to a third ten years before. There was also a lower percent of families in the $3,000 to $4,999 range in the state, while the percentage of families with incomes greater than $10,000 rose to 22 percent from the 8.9 percent recorded in 1959.

In Lincoln County the same general trend prevailed. However, as indicated in Table 7, the proportion of families in the lowest income category remained the same. More accurate Census data, when available, may show a different picture. The county's share of families with incomes in excess of $10,000 more than doubled, but the change was not as great as that experienced statewide.

TABLE 6

NUMBER OF FAMILIES BY INCOME GROUP

	STATE		LINCOLN COUNTY	
Income Group	1959	% Change 1949-59	1959	% Change 1949-59
$ 0 - 2,999	73,908	- 30.4	524	- 63.1
3 - 4,999	48,643	- 14.0	763	- 4.6
5 - 6,999	45,722	+ 155.5	1,032	+ 380.0
7 - 9,999	32,418	+ 340.8	550	+ 633.3
10,000 +	19,792	+ 258.6	259	+1626.7
Median Income	$4,502		$5,483	

Note: Census gives income of previous year

Source: U. S. Census

TABLE 7

PERCENT OF FAMILIES EACH INCOME GROUP, 1949, 1959, 1969

	STATE			LINCOLN COUNTY		
Income Group	1949	1959	1969	1949	1959	1969
$ 0 - 2,999	54.9	33.4	22.3	56.2	16.8	16.9
3 - 4,999	29.2	22.5	14.2	31.8	24.4	13.7
5 - 6,999	9.2	20.6	26.6	8.5	33.0	32.0
7 - 9,999	3.8	14.6	14.6	3.0	17.6	18.0
10,000 +	2.9	8.9	22.3	0.5	8.2	19.4

Source: U. S. Census 1949 and 1959. Sales Management, 1969

Population Estimates for Montana

Table 8 records the population changes in the State of Montana since 1900. The table notes the substantial rate of growth between 1900 and 1920. The following decade, 1920 to 1930, saw a slight population decline which amounted to 11,283 persons.

The state has shown modest increases in each Census period since 1930. The general trend has paralleled that of the nation although the rate of increase in these ten year periods has been less than that experienced by the country as a whole. There was a period of relatively large population increase between 1950 and 1960, followed by a reduced rate of of growth in the past ten years.

The statewide increase since 1930 has amounted to 156,803 persons and a growth rate of 29.1 percent. In terms of ten year Census periods, this represented an average gain of 7.5 percent per decade. In view of the 1960-1970 slower rate of growth and generally decreased fertility rates across the United States, it is not likely that the growth rate experienced between 1930 and 1970 can be sustained.

TABLE 8

MONTANA POPULATION CHANGE 1900 - 1970

Year	Population	Change	% of Change
1900	243,329		
1910	376,053	132,724	54.5
1920	548,889	172,836	45.9
1930	537,606	-11,283	-2.0
1940	559,456	21,850	4.0
1950	591,024	31,568	5.6
1960	674,767	83,743	14.1
1970	694,409	19,642	2.9

Source: U. S. Census

The U. S. Bureau of the Census has prepared estimates of future population by state. The latest of these forecasts was prepared in 1968, two years before the actual Census count in 1970. The estimates for 1970 were over-optimistic and considerably higher than the actual 1970 count. The Census Bureau estimates for individual states did not anticipate the greatly reduced fertility rate of the past decade. In Montana, the continued high out-migration was also underestimated. These estimates for Montana are shown in Table 9.

TABLE 9

ESTIMATES OF MONTANA POPULATION TO THE YEAR 1985 (000)

Year	I-B	II-B	I-D	II-D
1970	725	728	716	719
1975	764	771	734	740
1980	817	819	762	773
1985	879	897	800	816

Source: U. S. Census Bureau Current Population Reports, Series P-25, 1968.

Different assumptions are reflected in the series of estimates. Series I assumes a continuation of present (1955-1960) migration rates, while Series II assumes that the gross migration rates will converge. Series B assumes a moderate decline in fertility, while D anticipates a substantial decline. Forecast I-D then, which assumed a continuation of the 1955-1960 migration rate and a substantial decline in fertility, turned out to be more reflective of the actual events. However, even this forecast over-estimated Montana's 1970 population by 22,000 people.

The National Planning Association and the Montana Department of Planning and Economic Development have also prepared estimates of future state population. Those of the National Planning Association are as high as the Census Bureau forecasts, with 774,000 persons expected by 1980.

The estimates of the Department of Planning and Economic Development were prepared by the University's Bureau of Business and Economic Development. They are based on a more thorough analysis of the state's economic potential. The estimates anticipate that not enough new jobs will be created to absorb the natural increase in population and, as a result, there will be a continued out-migration. According to this source, the 1980 state population will reach 725,000 people. This would represent a gain of about 31,000 more than recorded by the 1970 Census.

The problems of estimated future population are evident from the different results reached. The problems are compounded in a state like Montana, which is heavily dependent on employment connnected with natural resources where government policies, foreign events, and numerous other factors can have far-reaching consequences. This should be kept in mind in using the estimates which follow. The estimates are intended to provide general guidelines for physical planning of the community. Development policies must be flexible enough to accommodate unforeseen change.

The estimates of future state population are shown in Table 10. Two forecast methods have been used. The first applies the percentage changes developed by the Census Bureau in its lowest estimate, I-D, to a corrected base 1970 population figure. From 1985 on, an average growth rate derived from the Census estimates is used.

The 1980 state population estimates of the Bureau of Business and Economic Research are used in the second estimate. From 1980 on the estimates assume a continuation of the 1970-1980 growth rate expected by the Bureau.

TABLE 10

ESTIMATES OF MONTANA POPULATION TO THE YEAR 2000

Year	Bureau of Business Research	Adjusted Census Bureau
1970	694,400	694,400
1975	709,000	711,800
1980	725,000	739,800
1985	740,000	775,800
1990	756,000	804,500
1995	773,500	834,300
2000	790,200	865,200

The differences between the adjusted Census Bureau estimates and those of the Bureau of Business and Economic Research are minor through 1980. This is the period of greatest concern for the planning of Libby. Beyond this time, there are any number of unforeseen events that could alter the forecasts. The estimates of state population that have been used as the basis for estimating the future population of Libby and Lincoln County are a median of the two.

Region I Population Forecasts

For statistical and analysis purposes, the Department of Planning and Economic Development has divided the State of Montana into seven regions. These are groupings of counties which studies of the University's Bureau of Business and Economic Research have shown to be relatively homogeneous in terms of economy, resources, land use, and other factors.

Lincoln County is included in Region I, an eight county grouping which encompasses Flathead, Sanders, Lake, Mineral, Missoula, Granite, and Ravalli as well.

The Bureau's studies indicate that this is the most diverse of the state's regions with agriculture, lumbering, and tourism-recreational activities all playing important roles. The largest communities and major regional trade centers of Region I are Kalispell and Missoula.

In 1950 the population of Region I was 114,454. By 1960 it had reached 128,541 and by 1970 the area's population numbered 157,428. The increase in the past decade amounted to almost 28,900 persons, or a gain of 22 percent.

According to the Bureau's studies, regional employment increased by over 13,000 between 1960 and 1968. Manufacturing replaced agriculture as the dominant industry in Region I between 1950 and 1968. An estimated 11,600 manufacturing jobs, most of which were forest product related, were located in the area in 1968. Construction, government, and service employment combined with the increase in manufacturing gave Region I the fastest rate of growth of all the state's regions in the 1960's.

The Bureau of Business and Economic Research anticipates continued employment and population growth in Region I. This population growth will be at a slower rate than during the past decade, but by 1980 will reach 171,100. The rate of employment growth is expected to be greater and by 1980 the estimated employment in Region I will reach 65,450. The estimates reflect expected continued expansion of the lumber and wood products industries, as well as increases in government, mining, and services.

In 1950, Region I accounted for 19.4 percent of Montana's population. The share of state population in 1960 dropped to 19.1 percent. In 1970 the figure had increased to 22.6 percent.

Table 11 presents estimates of Region I population through the year 1990. The Bureau of Business Research estimates for 1980 have been utilized, and after that year it has been assumed that the Region's share of state population will continue to increase. By 1990, it is estimated that 24 percent of Montana's population will reside in the Region. The estimates of state population represent the median between the low-based Census series presented in the preceding section and the estimates arrived at on the basis of the Bureau of Business Research study, noted in the preceding section.

TABLE 11

ESTIMATES OF REGION I POPULATION

Year	State	Region I	Region % State
1950	591,024	114,454	19.4
1960	647,767	128,541	19.1
1970	694,409	157,428	22.6
1975	710,400	164,200	23.1
1980	731,400	171,000	23.4
1985	758,400	179,200	23.6
1990	780,700	187,400	24.0

Lincoln County Population Forecast

Much of the population increase recorded in Lincoln County was the direct result of construction of the Libby Dam. Estimates of employment and population prepared by the Corps of Engineers prior to construction anticipated a peak construction-related population during this time of 6,300. More than 5,100 of these construction workers and dependents were expected to live in Lincoln County. Approximately 4,400 of the peak construction population was expected to live in the Libby area and 700 in Eureka.

The peak construction year, according to the 1965 estimates of the Corps of Engineers, was expected to be 1968. The Corps estimate for Libby in that year was 4,497 people directly related to the dam project. After this peak, the construction-related population was expected to drop to 4,420 through 1971, to 3,345 in 1972, and then steadily down to 115 permanent workers and families by 1975.

Although the exact schedule forecast by the Corps has not been kept and the resulting impact population estimates have not fallen exactly in the anticipated years, much of this impact population was included in the 1970 Census. Estimates of future population, therefore, must consider the likelihood that many, if not most, of these people will not remain in the area after construction ends.

Without the impact resulting from dam construction, it is estimated that the county would have had a population in 1970 of approximately 14,100 persons. This estimate is based on the assumption that the county's rate of increase in the 1960 to 1970 period would have been the same as that of Region I as a whole. This area increased by 12.2 percent in the ten years. The estimate for Lincoln County then also assumes that approximately 4,000 persons of the impact population were residents in 1970.

Two estimates of future county population are given in Table 12. The first uses the 1970 recorded population, less the estimated impact population, as a base and assumes that Lincoln County will grow at the rate expected for Region I as a whole throughout the forecast period. The second utilizes the 1970 figure with no adjustment and assumes that the county's share of Region I population will remain at the 1970 level. It is likely that the actual population in the forecast years will fall between the given figures. In estimating the population of Libby, then, the median has been used.

The estimates for Lincoln County, using the adjusted 1970 population base, would mean 15,200 persons in 1980 and 16,670 by 1990. On the basis of the second estimate, 1980 population would reach 19,500, while the 1990 population would be 21,370. Median estimates for the two years are 17,900 and 19,000.

TABLE 12

ESTIMATES OF LINCOLN COUNTY POPULATION

Year	Region I	LINCOLN COUNTY 1	 2	Median
1950	114,500	8,693	8,693	
1960	128,500	12,537	12,537	
1970	157,400	14,100	18,063	
1975	164,200	14,600	18,800	16,700
1980	171,000	15,200	19,500	17,400
1985	17,920	15,940	20,450	18,200
1990	187,400	16,670	21,370	19,000

Libby Population Estimates

Most of the growth in Lincoln County in the recent past has taken place in the Libby Census Division. As noted in an earlier section, three-fourths of the 1960-1970 county population gain took place in the unincorporated part of this Census Division. In actual numbers, it grew by more than 4,000 persons, while population in the City of Libby increased by 458 persons. The Libby Census Division, as a whole, made up two-thirds of the county's 1970 population.

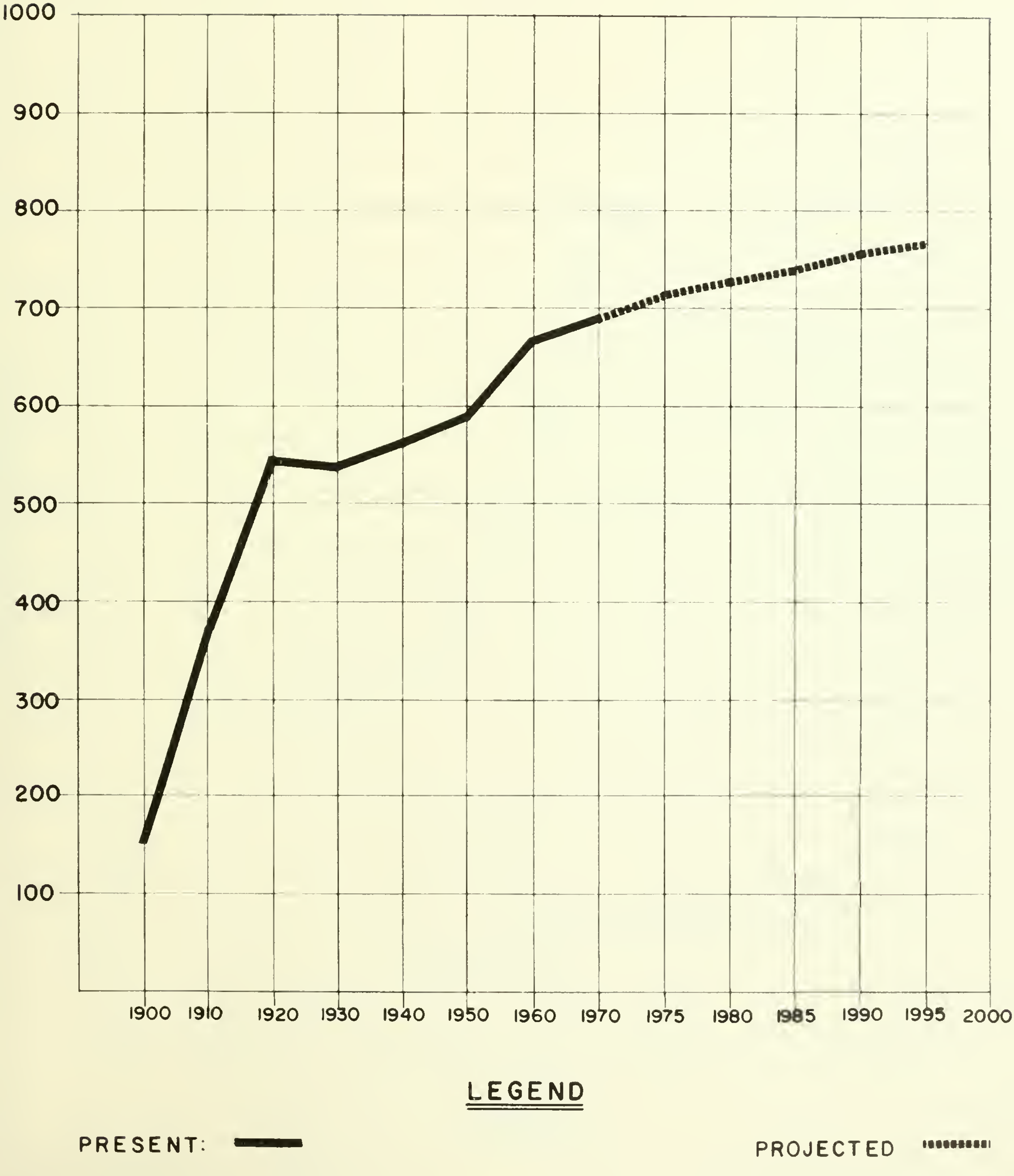
Table 13 presents estimates of future population by County Census Division. These estimates are based on the median county estimate of Table 12 and assume that the Libby Census Division will continue to make up about two-thirds of Lincoln County's population in the future. Population in the Libby Census Division is expected to increase throughout the forecast period following the post-construction decline. The increases are expected to be moderate, approximately one percent per year, and the 1980 and 1990 populations are forecast at 11,600 and 12,700, respectively.

TABLE 13

ESTIMATES OF POPULATION BY COUNTY CENSUS DIVISION

Year	Eureka	Troy	Libby	County
1960	3,054	2,136	7,347	12,537
1970	3,558	2,460	12,045	18,063

POPULATION
PAST AND FUTURE
MONTANA



POPULATION
PAST AND FUTURE
LINCOLN COUNTY
MONTANA

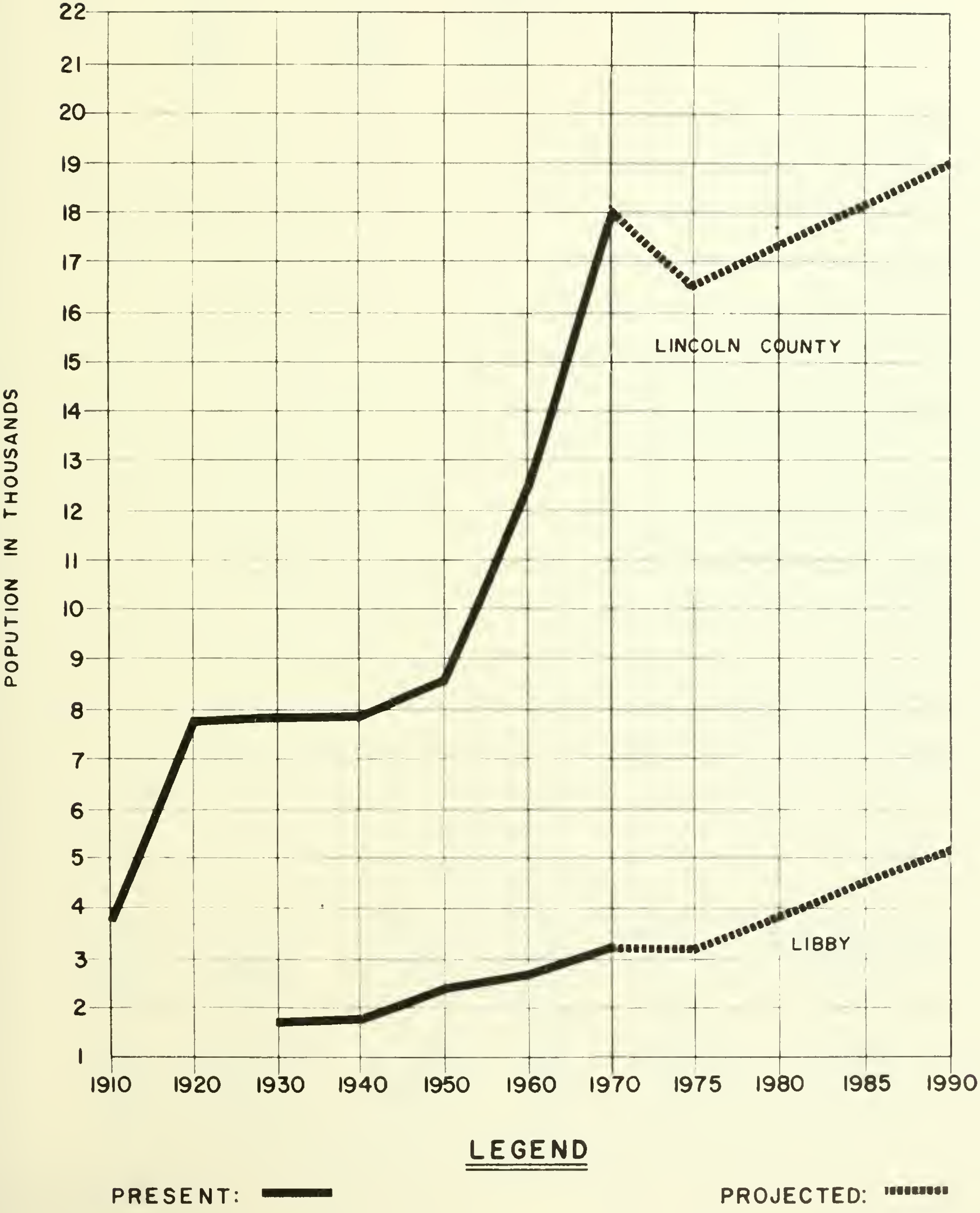


TABLE 13 (Cont.)

ESTIMATES OF POPULATION BY COUNTY CENSUS DIVISION

Year	Eureka	Troy	Libby	County
1975	3,360	2,240	11,100	16,700
1980	3,480	2,320	11,600	17,400
1985	3,660	2,440	12,100	18,200
1990	3,780	2,520	12,700	19,000

In the past ten years, most of the growth in the Libby Census Division, as well as in the county, has been outside the Libby city limits. Much of the dam-related construction population has located there. It is this area, then, that will be most affected by the decrease that will follow dam completion.

Future city population will depend to a large extent on the annexation and development policies that Libby adopts and follows through the planning period. It will also depend on the effectiveness of state health and anti-pollution regulations, for much of the development outside the city limits presents potential health hazards.

The estimates presented in Table 14 assume that development outside the city will be limited because of these factors and that the city will be able to attract a steadily growing share of the Census Division population because of the availability of utilities and services.

City population is expected to increase at about the 1960-1970 rate for the next decade and reach 3,860 by 1980. The 1990 Libby population forecast is 5,080 persons.

TABLE 14

ESTIMATES OF LIBBY POPULATION

Year	County	Census Division	Libby	Jurisdictional Area*	Libby % Census Division
1960	12,537	7,347	2,828		38.4
1970	18,063	12,045	3,286	9,986	27.2
1975	16,700	11,100	3,330	9,270	30.0
1980	17,400	11,600	3,860	9,780	33.3
1985	18,200	12,100	4,600	10,300	38.0
1990	19,000	12,700	5,080	10,870	40.0

* Estimated from Housing Survey - see Housing Section for methodology

ECONOMIC BASE

Libby serves as the major trade center for Lincoln County and a large area of northwestern Montana. The economy of this tributary area is based on lumber and wood products manufacturing with mining also of some importance.

The city is in the center of the Kootenai National Forest "working circle." The gross area of the Kootenai National Forest is over 2.1 million acres, with net forest area more than 1.8 million acres.

Unitl the time of Libby dam construction, the county economy was almost entirely based on wood products manufacturing consisting of logging, sawmill operations, with some fabrication and byproduct manufacturing. According to the study Impact of Libby Dam Construction on the Economy of Lincoln County, Montana, the wood products industry generated about a third of the total county personal income of $31.3 million in 1965.

The major employer in the wood products industry, and in all other areas of the economy, is the J. Neils Lumber Company, a division of St. Regis Paper. The mill, located in Libby, converts the area's forest products into more than 5,000 items and employs more than 1,200 people.

The second largest private employer is the W. R. Grace Company, Universal Zonolite, which employs about 200 persons in the mining of vermiculite. More than 100,000 tons are mined per month. The local plant processes some 500 tons daily and ships to more than 40 plants across the country.

Federal, state, and local government are also important employers in Lincoln County. Libby is the administrative headquarters of the U. S. Forest Service for the Kootenai National Forest. The U. S. Forest Service has approximately 175 permanent employees, and in the summer employs as many as 400. The local school district, District #4, employs about 225.

The traditional pattern of employment and the economy of Lincoln County has been temporarily altered by the construction of the Libby Dam. Construction began in 1966, and is expected to be complete by 1973. Peak employment, which occurred in 1969, was approximately 2,600 workers. Permanent employment upon completion in 1973 is expected to be less than 200.

The labor force in Lincoln County in 1960 numbered 4,413 persons. The percentage of total county population considered in the labor force in that year amounted to 35.2 percent, a labor force participation rate slightly lower than the 37.7 percent statewide. The county labor force was 1,390 persons larger in 1960 than it was at the time of the previous U. S. Census ten years earlier. This represented a 46 percent gain, an increase slightly larger than the 44 percent county population gain for this same time period.

Table 15, which gives the characteristics of the 1950 and 1960 labor force, notes that there was a substantial increase in female labor force participants in the period. The increase amounted to more than 460 females. The rate of increase, 89 percent, was more than twice the rate for males in the county and double the rate at which the female labor force increased statewide.

TABLE 15

LABOR FORCE CHARACTERISTICS

	Libby*	Lincoln County		State	
	1960	1950	1960	1950	1960
Population	2,825	8,693	12,537	591,000	674,700
Labor Force	1,113	3,020	4,413	232,150	254,400
L. F. - % Pop.	39.4	34.7	35.2	39.3	37.7
Males in L.F.	814	2,503	3,433	181,250	181,000
Females in L.F.	299	517	980	50,900	73,400
Females - % Total	26.9	17.1	22.2	21.9	28.9
% Chg - Male L.F.	NA		37.2		-0.1
% Chg - Female L.F.	NA		89.6		44.2
Employed L.F.	1,014	2,713	3,625	218,500	231,300
% Total L.F.	91.1	89.8	82.1	94.1	90.0
Male Employed	732	2,247	2,750	169,900	163,200
Female Employed	282	466	875	48,600	68,100
Male - % Total	72.2	82.8	75.9	77.8	70.6
Unemployed	99	307	788	13,650	23,100
% Labor Force	8.9	10.2	17.9	5.9	9.1
Male Unemployed	82	256	683	11,850	17,800
Female Unemployed	17	51	105	2,300	5,300

* Data for 1950 not available

About a fourth of the 1960 Lincoln County labor force was located in Libby. The city's labor force numbered 1,113 persons, and its participation rate was 39.4 percent, a figure higher than both the county or state.

As noted in Table 15, the percentage of females in the Libby labor force was somewhat higher than in the county as a whole. There were 299 females included in the labor force in 1960.

The number of employed in the labor force of Libby in 1960 was 1,014. There were 99 unemployed, and the city's rate of unemployment was 8.9 percent. The unemployment rate was only slightly less than that of Montana. In Lincoln County, however, unemployment was exceptionally high in that year. There were 788 workers unemployed, and the employment rate was more than 17 percent.

The data on employment and labor force for the 1970 U. S. Census has not been made available yet. There is no doubt that there have been increases in line with the population increases experienced during the past decade. Assuming that the percentage of population included in the labor force has continued to decrease as it did between 1950 and 1960, the estimated labor force in Libby in 1970 was 1,225, while in Lincoln County it was 6,140. The number of employed, assuming a five percent unemployment rate, was 1,160 in Libby and 5,830 in the county.

Estimates of future labor force and employment, as shown in Table 16, expect that the labor force participation rates will continue to decrease and that a five percent unemployment rate will prevail. The labor force in Libby in 1980 is expected to reach 1,390 with 1,320 employed. The labor force in the entire Census Division is expected to decrease to 4,060 with 3,860 employed.

TABLE 16

LABOR FORCE ESTIMATES

	1970	1980	1990
Lincoln County			
Population	18,063	17,400	19,000
% in Labor Force	34.0	33.5	33.0
No. in Labor Force	6,140	5,830	6,270
No. Employed (95%)	5,830	5,540	5,960
Libby Census Division			
Population	12,045	11,600	12,700
% in Labor Force	36.0	35.0	34.0
No. in Labor Force	4,330	4,060	4,320
No. Employed (95%)	4,110	3,860	4,100
City of Libby			
Population	3,286	3,860	5,080
% in Labor Force	37.3	36.0	35.0
No. in Labor Force	1,225	1,390	1,780
No. Employed (95%)	1,160	1,320	1,690

Occupational Composition of the Employed Labor Force

The occupational composition of the employed labor force in Lincoln County and Libby is shown in Table 17. The data shows that the most important occupations among the county's employed labor force in 1960 were operatives, craftsmen, laborers, managers, and professionals - in that order. In Libby, operatives and craftsmen were followed by professionals, managers, and service workers.

Data for Libby for 1950 is not available. In the county, however, the 1950 to 1960 changes in occupations reflect some of the changes occurring in the economy. In this period all occupations other than farmers and farm laborers increased numerically. The on-farm occupations decreased by 192 workers. They made up about 12 percent of county employment in 1950, but decreased to 3.5 percent by 1960.

The most significant numerical gains were in the operative and craftsmen occupations. The numbers employed in these two categories increased by 276 and 216 workers, respectively. The occupations which showed the greatest rate of change in this time were professional, clerical, and service workers. All three of these occupations increased by more than 60 percent.

TABLE 17

OCCUPATIONAL COMPOSITION OF THE EMPLOYED LABOR FORCE

Occupation	COUNTY 1950	1960	LIBBY 1960	% 1960 TOTAL County	Libby
Professional	231	377	149	10.4	14.7
Managers	270	422	132	11.6	13.0
Clerical	173	283	91	7.8	9.0
Sales	112	146	42	4.0	4.1
Craftsmen	373	589	163	16.2	16.1
Operatives	509	785	174	21.7	17.1
Private Households	27	73	16	2.0	1.6
Service	200	321	125	8.9	12.3
Laborers	395	430	101	11.9	10.0
Farmers	253	82	0	2.3	0.0
Farm Laborers	65	44	4	1.2	0.4
Not Reported	105	73	17	2.0	1.7
TOTAL	2713	3625	1014	100.0	100.0

Source: U. S. Census

Employment by Major Industry

Table 18 shows employment by major industry for Libby and Lincoln County. Data for 1970 is not yet available from the Census. The table notes that manufacturing, service, and trade were the three largest employers in Libby in 1960. Manufacturing, which consisted almost entirely of wood products, had 397 employees in that year and made up almost 40 percent of the employment of Libby residents. Service industries had an employment of 250, and trade 177 workers. Together these two accounted for 42 percent of employment.

TABLE 18

EMPLOYMENT BY MAJOR INDUSTRY

Industry	COUNTY 1950	1960	LIBBY 1960	% 1960 TOTAL County	Libby
Agric., Forest, Fish	399	252	24	6.9	2.4
Mining	120	171	39	4.7	3.9
Construction	118	170	41	4.7	4.0
Manufacturing	837	1482	397	40.9	39.1

TABLE 18 (Cont.)

EMPLOYMENT BY MAJOR INDUSTRY

Industry	COUNTY 1950	COUNTY 1960	LIBBY 1960	% 1960 TOTAL County	% 1960 TOTAL Libby
Trans., Comm., Utilities	231	149	15	4.1	1.5
Trade	407	554	177	15.3	17.5
F.I.R.E.	24	40	25	1.1	2.5
Service	377	649	250	17.9	24.6
Public Admin.	88	109	41	3.0	4.0
Not Reported	112	49	5	1.4	0.5
TOTAL	2713	3625	1014	100.0	100.0

Lincoln County's 1960 employment followed the same pattern, generally, with manufacturing, service, and trade, in that order, constituting the major employers. Total manufacturing employment in Lincoln County was 1,482. There were 649 service and 554 trade workers.

Agricultural employment made up a relatively small portion of the total, with only 252 employed in this category. Between 1950 and 1960, the number of agricultural workers decreased by 147. All other categories, except transportation, communications, and utilities (which lost 82 workers) showed an increase.

The most impressive employment increase was in the manufacturing activity. Some 640 workers were added between 1950 and 1960. As noted, almost all of this was due to employment in the wood products industry. Service employment in the county grew by 272 and trade by 147 workers in this time.

Covered Employment Trends

Employment data from the U. S. Census is based on place of residence, rather than place of work, and covers all persons employed. However, it is available only every ten years. To determine what has happened in Lincoln County employment since 1960, it is necessary to evaluate the trends in covered employment - employment that is included under the provisions of the state's unemployment compensation laws. Not all categories of employment are covered, including farming, railroad and government. However, this data does give an indication of the trends.

Table 19 shows the trends in Lincoln County covered employment from 1956 through 1967. In 1956, total covered employment was 2,632 workers, and in 1966, the year prior to dam construction, it was 2,721. By 1967, when construction was underway, total covered employment reached 3,848 workers.

The table shows the importance of wood products manufacturing employment to total employment. In 1966, the highest year of manufacturing employment, there were 1,728 workers employed. Approximately 60 percent of covered employment is in this area. Employment has fluctuated throughout the period.

The impact of Libby Dam construction is also apparent. The number of construction workers in 1966, the first year of dam activity, was 296. It increased to 1,003 in 1967. Total covered employment, reflecting this gain in construction employment, went from 3,091 to 3,848.

The source for the table, the report Impact of Libby Dam Construction on the Economy of Lincoln County, Montana, also estimated non-covered employment for 1967. This estimate was 1,123 workers, including 76 railroad, 485 government, and 130 agricultural. Total 1967 employment in the county, then, was 4,970. Covered employment made up 77 percent of all 1967 employment while in 1960 it accounted for 68 percent.

TABLE 19

COVERED EMPLOYMENT TRENDS

Year	Wood Prod. Mfg.	Mining	Const.	Trade	Trans., Comm., Util.	F.I.R.E.	Service	Total*
1956	1747	116	153	381	18	16	140	2632
1957	1538	117	64	344	18	18	121	2191
1958	1484	117	84	326	30	16	104	2425
1959	1692	135	102	352	41	16	98	2460
1960	1539	141	58	357	47	18	93	2278
1961	1528	135	69	365	42	16	86	2271
1962	1614	139	82	395	47	18	76	2402
1963	1751	154	92	427	46	20	77	2605
1964	1769	145	104	446	55	23	84	2607

TABLE 19 (Cont.)

COVERED EMPLOYMENT TRENDS

Year	Wood Prod. Mfg.	Mining	Const.	Trade	Trans., Comm., Util.	F.I.R.E.	Service	Total*
1965	1673	154	130	498	69	41	109	2721
1966	1728	180	296	572	74	50	133	3091
1967	1674	206	1003	603	85	57	156	3848

* Totals include miscellaneous and unclassified employment

Source: Impact of Libby Dam Construction on the Economy of Lincoln County, Montana

Components of the Economy

Manufacturing is the major factor in the economy of Lincoln County and Libby. As indicated in previous tables, manufacturing comprised 40 percent of all employment in 1960, and about 60 percent of the covered employment during the 1960's. Practically all of the manufacturing was related to the wood products industries.

There were 67 manufacturing establishments in the county in 1967, with 61 of these in the lumber and wood products category. Other categories and the number of establishments in each were as follows: food and kindred - 1; printing and publishing - 2; stone, glass, and clay - 3; fabricated metal products - 1; non-electrical machinery - 2.

Table 20 shows that there were six establishments employing more than 20 workers in 1967. Total employment in that year was 1,700 and the payroll was more than $11 million. The value added by the manufacturing process in 1967 was $16.5 million, some $2 million more than in 1963. Capital expenditures in both 1963 and 1967 were about $1 million.

TABLE 20

MANUFACTURING DATA FOR LINCOLN COUNTY

	1963	1967
Establishments	83	70
With 20+ Employees	11	6
Number of Employees	1787	1700
Payroll (Million $)	9.3	11.2

TABLE 20 (Cont.)

MANUFACTURING DATA FOR LINCOLN COUNTY

	1963	1967
Value Added by Manufacturing (Million $)	13.3	16.5
Cost of Materials (Million $)	D	18.9
Value of Shipments (Million $)	D	36.1
Capital Expenditure (Million $)	1.1	1.0

D = Information withheld

Source: U. S. Census of Manufacturing

The study, Impact of Libby Dam Construction on the Economy of Lincoln County, Montana, evaluated the prospects for additional manufacturing locating in the area because of the dam. The conclusion reached was that the dam itself would have little effect. With no dam-related transportation improvements, the distance to markets would not be reduced, eliminating most common industries. The increased electrical potential because of the dam was also rejected as stimulant to the establishments of such industries as aluminum, since the rate structure benefits were still not enough to offset transportation disadvantages.

The best potential for increases in the manufacturing improvement of the economy lies in expansion of the wood products industry. The study pointed out that most of the allowable volume of timber is now harvested from the National Forest lands. Assuming no change in timber management policies, "major increases in the output of forest products must depend on fuller utilization of the considerable quantities of wood residues now wasted during harvesting and processing."

The study also noted "regions where considerable timber residues are generated are consequently likely locations for future expansion of such manufacturing facilities. The Lincoln County area is one of the regions generating large quantities of residues."

"The residue with the greatest apparent potential (given present technology) is wood chips. Wood chips can constitute the major export of these potential industries for the area: pulp and paper production, ground wood, an fibreboard."

The analysis of raw material and water requirements for pulp and paper production was favorable and the report stated "the feasibility of such a plant in the area will ultimately depend on the possibility and cost of reducing the externalities from pollution to a level acceptable under pollution control standards and the economics of shipping costs to markets."[1] These same general conclusions applied to the establishment of a ground wood or fibrewood plant.

Trade

Libby is the major trade center of Lincoln County. Employment in retail trade made up about 18 percent of all employment in 1960. More current data from the 1967 Census of Retail Trade places retail trade employment in that year at 415. Undoubtedly it is currently higher because of dam construction.

In 1967, there were 86 retail establishments in the city with sales in excess of $13 million. The payroll generated by these establishments was more than $1.2 million. As shown in Table 21, approximately half the county establishments and more than 60 percent of the county sales were in Libby.

TABLE 21

RETAIL TRADE DATA

	1958	1967	Change
County			
Establishments	122	165	43
Sales (000)	9939	20,840	10,901
Payroll (000)	912	1,913	1,001
Employment	472	674	202
City			
Establishments	NA	86	
Sales (000)	NA	13,065	

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[1] In addition, the availability of chipable material and the economics of plant size, based on available material supply, makes the feasibility of such industries questionnable.

TABLE 21 (Cont.)

RETAIL TRADE DATA

	1958	1967	Change
City (Cont.)			
Payroll (000)	NA	1,260	
Employment	NA	415	

NA = Not available

Source: U. S. Census of Business

While data for Libby for earlier years is not available, it is likely that the changes occurring countywide between 1958 and 1967 were experienced primarily in the city. These changes for Lincoln County, as a whole, include an increase of 43 retail establishments, a gain of 202 workers and more than a doubling of retail sales. The 1967 county sales of $20,840,000 were $10.9 million greater than the sales recorded in 1958.

Table 22 shows the number of establishments and sales by type in the county and city for 1967. In both areas, food stores made up the largest single share of sales, followed by automotive dealers. Other store types with a high sales volume included eating and drinking places and service stations.

TABLE 22

SALES AND ESTABLISHMENTS, 1967

	COUNTY		CITY		County % Inc. Sales
	Estab.	Sales*	Estab.	Sales*	1958 - 1967
Building Materials	12	928	6	607	153.6
General Merchandise	6	666	3	439	22.3
Food	23	5935	12	3846	67.2
Automotive	12	3956	5	2608	112.4
Service Stations	22	1943	10	1130	56.5
Apparel	8	1079	5	D	284.0
Furniture	4	D	3	338	-----
Eating & Drinking	48	2259	23	1219	200.8
Drugs	4	643	3	D	108.8
Other Retail	21	2542	11	1049	484.4
Non-Store	5	D	5	D	-----

D = Data withheld * 000 Dollars Source: U. S. Census of Trade

The table also notes the percentage change in sales in the various store types in the county between 1958 and 1963. The greatest rate of increase was in the "other retail" category which grew by 484 percent. Building materials, apparel, eating and drinking places, and automotive dealters also showed substantial percentage gains in this time. In terms of actual dollar sales, the largest increase occurred in food stores, where there was a sales increase of $2.4 million. "Other retail" stores increased by $2.1 million, while automotive sales increased by $2,072,000.

At the time of the 1967 Census of Business, Lincoln County had an estimated population of 16,408 and Libby a population of 3,150. The per capita personal income throughout the county in that year is estimated at $2,950, of which about 60 percent was available for retail spending. The total amount available for retail spending for the county's population was $29,042,000. The 1967 Libby population had $5,576,000 available for retail expenditures.

Table 23 compares the actual sales in 1967 with the estimated potential for retail expenditures. Libby's sales in that year were almost twice the amount available for its own population. Over $5.3 million was attracted from beyond the city limits. The county, as a whole, however, failed to capture all of the retail dollars generated by Lincoln County residents. More than $8 million of the available retail dollars were spent elsewhere. This anticipated potential could mean a substantial difference in income and employment in the county.

TABLE 23

AVAILABLE AND ACTUAL SALES, 1967

	County	City
Available Retail $	29,042,000	5,576,000
Actual Sales	20,840,000	10,901,000
Difference	-8,202,000	+5,325,000

Future city and county sales estimates are presented in Table 24. These estimates should be considered as rough approximations, as they are based on the per capita sales attained in 1967. This method assumes that the same sales attraction will be maintained in the future. It does not take into account the possibility of the county or city exerting stronger retail pull in the future through improvements in the business sector or merchandising techniques. These could help to capture the retail dollars that are now lost to the county.

The method also does not take account of changes in disposable personal income or the disposition of this disposable income between retail and other types of expenditures.

TABLE 24

ESTIMATES OF FUTURE SALES*

	Population	Sales (000)	Square Feet (000)**
1980			
County	17,400	22,098	367
City	3,860	13,356	222
1990			
County	19,000	24,130	402
City	5,080	17,577	259

* Based on 1967 per capita sales of 1,270 for Lincoln County and 3,460 for Libby.

** Based on average sales productivity of $60/sq. ft. of floor space.

By 1980, Lincoln County sales are expected to reach $22 million, while those in Libby are estimated at $13.4 million. The 1990 Libby sales forecast is $17.5 million.

The table also presents approximations of future floor space needed to accommodate the estimated level of sales. These are based on an overall productivity factor of $60 in sales per square foot for all store types. They show that about 222,000 square feet of retail space could carry the estimated 1980 city sales. By 1990, some 259,000 square feet would be required.

In addition to retail trade, Lincoln County has several wholesale trade outlets that contribute to its economy. In 1967 there were 18 such establishments with $3.9 million in sales. A total of 49 persons were employed. Included among the establishment inventory were 11 merchant wholesales and seven other operating types. Table 25 indicates that wholesale trade increased in terms of all measures between 1958 and 1967. While this gain was substantial, it is not likely that wholesaling will ever assume a more important role in the local economy because of the proximity to Kalispell and other larger urban distribution centers.

TABLE 25

LINCOLN COUNTY WHOLESALE TRADE DATA

	1958	1967	Change
Establishments	15	18	3
Sales (000)	1906	3962	2056
Payroll (000)	198	254	56
Employment	22	49	27

Source: U. S. Census

Services

Services are another factor in attracting people to Libby. In 1967, the city had 54 service establishments and had more than a million dollars in service receipts. Employment in the service industry in that year was more than 100 and the payroll more than $190,000. Lincoln County service establishments numbered 98 with $2.0 million in receipts recorded. Table 26 shows that the county had increases in all aspects of service activity in the 1958-1967 period. Receipts increased by more than $1.3 million, and there was an increase of 36 establishments.

TABLE 26

SERVICE TRADE DATA

	1967		1958-1967 COUNTY	
	Libby	County	Change	% Change
Establishments	54	98	36	58.1
Receipts (000)	1059	2051	1333	185.6
Payroll (000)	192	398	279	234.5
Employment	103	191	48	33.5

Source: U. S. Census

The service activities are attracting a larger share of the consumer's personal disposable income both nationally and statewide. Much of this has been the result of increased leisure time and greater recreational spending. The trend is expected to continue. With the recreational features in the area to be increased by improvements made in connection with Libby Dam, Lincoln County and Libby should see an increase in service activity.

Employment Forecasts

Estimates of future employment by major industry for Libby and Lincoln County are presented in Table 27. These estimates are based on the total employment estimates for these two areas given in an earlier section. For Libby, the 1980 total employment is estimated at 1,320, while in Lincoln County, the 1980 employed labor force is expected to reach 5,540. The total 1990 employment in Libby and Lincoln County has been estimated at 1,690 and 5,960.

No estimates of 1970 employment have been prepared, since the usual distribution of employment among the major categories has undoubtedly been significantly, but temporarily, altered by Libby Dam construction.

The 1980 and 1990 employment estimates by major industry are based largely on the past distribution of total employment among the various categories. They also reflect the trends discussed in the previous sections.

The most obvious trend that can be expected to continue is the decrease in agricultural employment. Agriculture has played a relatively minor role in Lincoln County employment for the past twenty years, and this role is expected to diminish even further. Total agricultural employment by 1990 in Lincoln County is forecast at 200 workers.

Except for agriculture, all other categories of industry are expected to increase their employment over the next twenty years.

The major increases are expected to be in manufacturing, trade, and services. The latter is expected to have a level of employment in 1990 which is almost twice the number of service workers in 1960. Trade employment is also expected to be almost twice the 1960 level. The major gains in actual employment, however, are expected in manufacturing. The 1980 manufacturing employment is forecast at 2,180, while 1990 employment is estimated at 2,310 workers.

TABLE 27

EMPLOYMENT ESTIMATES

	1980		1990	
	County	City	County	City
Agriculture	220	25	200	20
Mining	260	50	270	50
Construction	280	55	300	70
Manufacturing	2180	470	2310	530
Trans., Comm., Utilities	220	20	240	30
Trade	960	265	1070	380
Fin., Ins., Real Est.	80	40	120	60
Service	1160	335	1260	460
Public Adm.	180	60	190	90
TOTAL	5540	1320	5960	1690

CHAPTER III

LAND USE

LAND USE INVENTORY

The land use inventory provides insight into the character of the planning area in terms of land usage and building distribution and density. Adequacy of existing streets, public facilities, residential neighborhoods, and commercial and industrial areas is determined by analyzing land use inventory data in conjunction with population levels and planning standards. This inventory and evaluation forms two of the basic input elements for determining the land use plan. The future location and improvement of streets, public facilities, neighborhoods, and other community activities must, in some measure, reflect the continuation and improvement of the existing developments.

In the Fall of 1970, a land use survey was conducted throughout the entire 73 square mile Libby jurisdictional planning area. The various types of land use that existed were plotted on field sheets and arial photographs, the land area recorded, and for commercial, industrial, semi-public, and public buildings the floor area was measured. This data was tabulated and then plotted on three land use maps: one for the central city area of Libby, one covering the entire jurisdictional area outside the central city, and a non-reproducible map presented to the City of Libby showing land use by parcel within the Libby urbanized area.

Tabulations and analysis of the jurisdictional planning area have been conducted on two levels: one, the jurisdictional area outside the city, and two, the area of the political division that exists between city and county which will allow the dissemination of specific information to both of the area's governing bodies. Summation tables for the planning area, as a whole, are included.

JURISDICTIONAL AREA LAND USE

Most urban areas have a common denominator in that they are agglomerations of varied land uses which tend to cluster as mutually supporting districts or zones. The Central Business District, the industrial district, the exclusive suburb, and the elementary school district and its surrounding residential neighborhood are examples of this clustering.

The area around Libby has developed, for the most part, in a strip type pattern. Clustering has been limited, due in part to the rapid unplanned growth of the area and the ready availability of land. This strip pattern has developed along the major arterials in the area - Highway 2 south and west of Libby, and along State Highway 37 north and east of Libby. Strip type development has generally been looked upon with disfavor because it is generally inefficient in its use of land and facilities. Utilities such as water, sewer, and streets must be extended in linear fashion, rather than the more efficient loop patterns that are possible with clustering type developments. Fire protection is a problem, due to increased distances. Traffic is increased because pedestrian traffic and accessibility is decreased, resulting in increased street construction and maintenance costs. As developments are strung out, neighbors have fewer ties and the basis for cooperation is disintegrated. This is true of commercial and industrial, as well as residential, developments. The strip developments that have occurred around Libby include a variety of intermixed uses. Residences and industrial and commercial establishments appear side by side. This creates adverse conditions for maintaining community pride and furthering community participation. This intermixing of uses is dealt with in more detail in the condition of structures section.

The Libby jurisdictional planning area is comprised of 47,255.4 acres, of which 722.5 (or only 1.5 percent) is contained in the corporate limits of

Libby. Of the 46,532.9 acres of land in the planning area outside the city, 1,874.1 acres (4.0 percent) is developed. Developed land includes residential, commercial, industrial, and public and semi-public land uses as well as land devoted to streets, roads, and developed open spaces. It is apparent from these figures that the vast majority of the planning area is outside the city and generally undeveloped.

Table 28 gives a summary of existing land uses within the noncorporate planning area. This table gives the number of acres devoted to the various categories of land use and indicates the percent of each major classification to the total developed area within the area, thus excluding the vacant, forested, and water areas. It is apparent from the table that the three major land use categories in the noncorporate planning area are streets, residential, and industrial with 660.6, 493.6, and 423.7 acres, respectively, devoted to these uses.

Extensive development has been limited to main areas in the noncorporate area: the area south of Libby along Highway 2, and the area west of Libby and south of the Kootenai River, with most development south of Libby being immediately along Highway 2 or within a few blocks of the highway. There are approximately 635 housing units, 291 of which are mobile homes, in this narrow corridor along Highway 2, which includes the area known as White Haven. The Comprehensive Area Wide Water and Sewer Study states that this area is expected to undergo the greatest population decrease as Libby Dam construction declines. This may well be a blessing, as the area is not served by a community water or sewer sytem and a high water table has created well contamination and health problems. Many residences in this area are intermixed with other noncompatible uses, thus resulting in some deteriorating effects for the area. This area has a high rate of deteriorated housing (17%) compared to 14% for the planning area

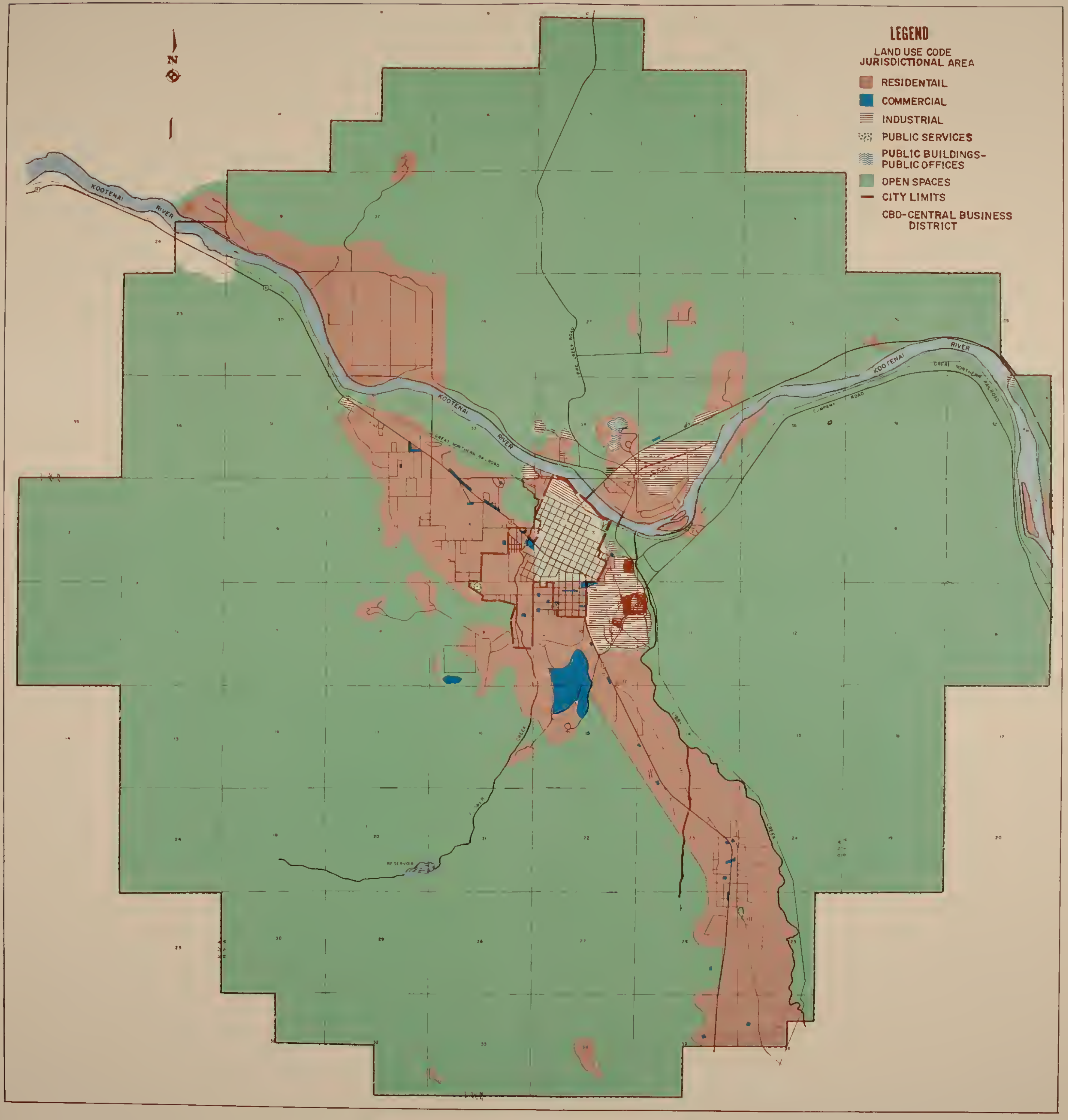

LEGEND
LAND USE CODE
JURISDICTIONAL AREA
RESIDENTAIL
COMMERCIAL
INDUSTRIAL
PUBLIC SERVICES
PUBLIC BUILDINGS-
PUBLIC OFFICES
OPEN SPACES
CITY LIMITS
CBD-CENTRAL BUSINESS
DISTRICT
N
KOOTENAI RIVER
KOOTENAI RIVER
KOOTENAI RIVER
GREAT NORTHERN RAILROAD
GREAT NORTHERN RAILROAD
COMPANY ROAD
RESERVOIR
CREEK

TABLE 28

LAND USE
NONCORPORATE AREA

	Net Acreage	% of Developed Land	% of Total Noncorporate Land
Residential	493.6	26.3%	1.1%
Commercial	44.0	2.3%	0.1%
Industrial	423.7	22.6%	0.9%
Public, Semi-Public	98.8	5.2%	0.2%
Parks & Developed Open Space	0.5	0.3%	0.01%
Streets	660.6	35.2%	1.4%
Railroad	152.9	8.1%	0.3%
TOTAL DEVELOPED	1,874.1	100.0%	4.0%
Water	808.1		1.8%
Vacant	43,850.7		94.2%
UNDEVELOPED	44,658.8		96.0%
TOTAL LAND	46,532.9		100.0%

as a whole. Nonresidential development is generally sparse and scattered. The area is served by McGrade Elementary School, but no developed park areas are available.

Development to the west of Libby has also occurred in a strip pattern, but major residential areas have located adjacent to Highway 2, rather than immediately along the highway. The Comprehensive Area Wide Water and Sewer Plan projected that most of the growth for Libby and the Libby urban area will occur in this location. The high school, new junior high school, and Plummer Elementary School provide impetus for future growth in the area. Presently there are no developed parks or dedicated park sites in this area. There are 64 housing units and 262 mobile homes in the area. None of these are served by the city sewer system, which is within easy access of many homes. Most homes are served by the community water system. Most residential units are found south of Highway 2 between the city limits and Pioneer Road and north of Skidale Road. There are well over a dozen relatively small subdivisions in this area. Relationship between subdivisions and future access demands created by these subdivisions does not appear to have been considered in the placement or design of most subdivisions in the area. As a result, large lots with expensive home sites are adjacent to small lots suitable only for mobile home dwellings. Little integration of the various subdivisions or systematic land development to form continuous neighborhoods has occurred. This unplanned, unregulated growth could become a detriment to future developments in this area. As property values go unprotected, traffic volumes increase without proper routing, and as small children are forced to cross major streets to get to school, the desirability of this area for residential placement will decline. Already this unplanned development has resulted in deterioration, with some locations showing up to 38 percent of the residences deteriorating. The area south of Highway 2 has good potential to accommodate extensive developments, although good sites become limited by adverse topography to the west of Pioneer Road and south of Skidale Road.

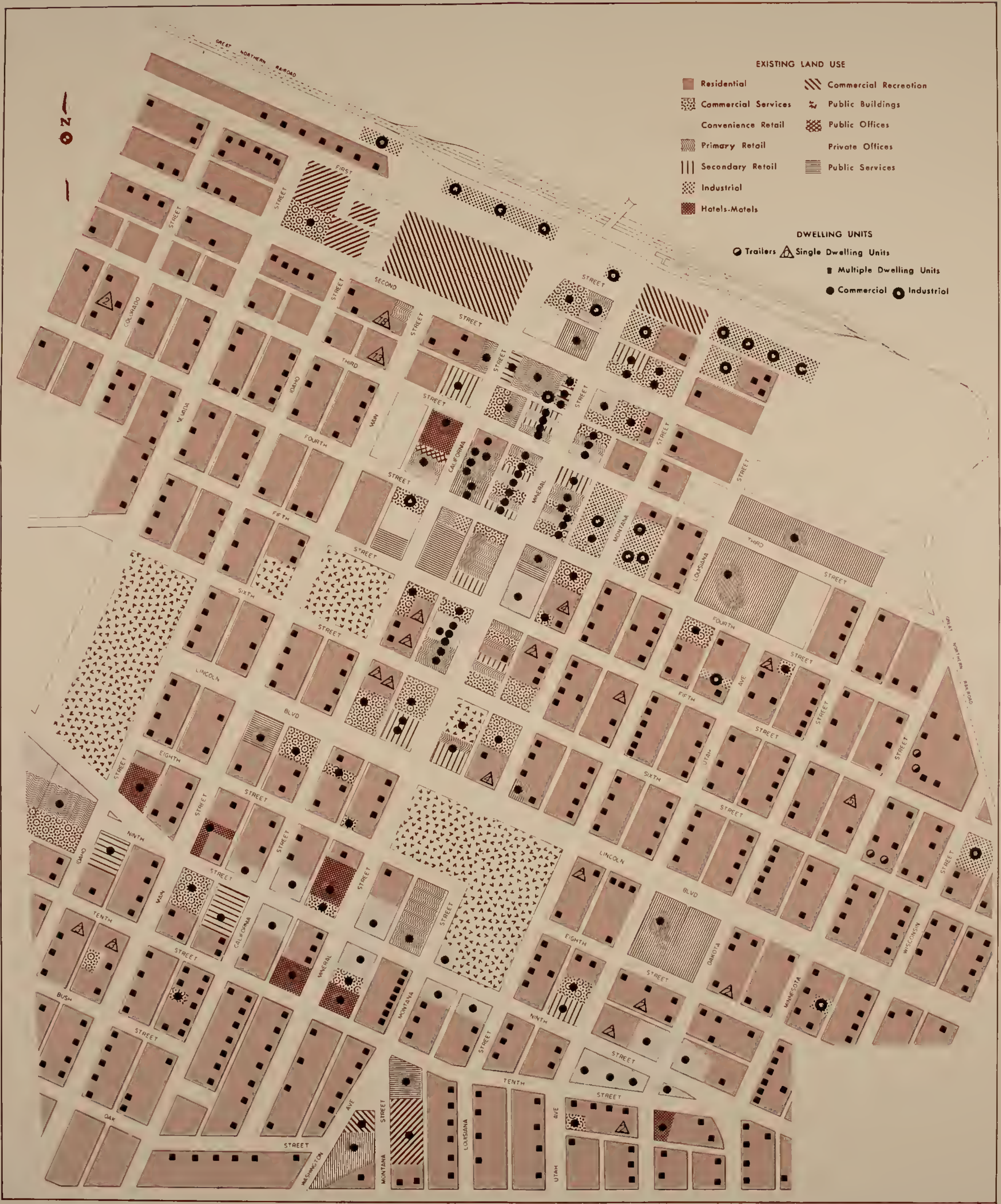
Nonresidential development in the area west of Libby has generally located along Highway 2. This development has been mostly highway commercial and industrial. Commercial establishments include heavy equipment sales and service, auto repair shops, mobile home sales, a drive-in theater, motels, and convenience retail. Industrial use consists of warehousing, bulk gas storage, and a sand, gravel, and cement plant. These commercial and industrial units are scattered along Highway 2 for about two miles west of the city. This strip development is broken intermittently by numerous residences, farmsteads, and vacant lands. Clustering of establishments is nonexistent. Some of these units are badly in need of repair, while many residential units abutting the highway strip have been deteriorating through lack of maintenance. The strip along Highway 2 has resulted in the usual problems of strip developments, as previously mentioned, and has detracted from the central business of Libby. When businesses fail to centralize, they lose the coordinated power needed to attract and capture available retail sales dollars.

In addition to the two major areas of development bordering Highway 2, a limited amount of development has occurred north of the Kootenai River. Along State Highway 37 a few commercial establishments and industrial enterprises have located. The commercial uses consist of a country club and antique shop and a motel in the extreme eastern part of the planning area. Industrial units are mostly warehousing and storage areas with a vermiculite storage depot located in the extreme eastern part of the jurisdictional area. Adjacent to Highway 37 and north of Libby is located the Libby Ranger Station and Forest Service airfield. In the same vicinity, several new, exclusive type subdivisions are developing overlooking the river, in addition to several older areas located near the river. Just west of Pipe Creek Road is an area of city owned land where the city dump is located. West of this city owned parcel are the county shops and several industrial warehousing sites. The lack of planning, the intermixing of uses, and locating of new areas adjacent to deteriorating detract from the attractiveness of this area. This area has the potential for developing a very attractive, exclusive forest and river front residential village atmosphere. North of the Kootenai River, near the western edge of the planning area, is a developing residential area. Presently there are over 125 homes located here. This area, located primarily in Section 29, is quite isolated from shopping and community facilities, being over two miles away from a major highway and across the river from Libby. Outside of the above mentioned areas, other development in the planning area is minimal, limited to occasional forest home clusters and farmsteads.

Due to a city ordinance limiting mobile home placement, most mobile homes have located outside the city limits. Many mobile homes have located west of Libby, immediately adjacent to Highway 2, or just north of the Highway. There are presently over 3,137 mobile homes located within the Libby jurisdictional planning area. Although the city ordinance does control and greatly diminishes mobile homes in the city, it results in uncontrolled developments in the surrounding urban area. With the decline of Libby Dam construction and the resultant decline in population, an effort should be made to stablize the existing mobile home parks and to turn them into community assets. What to do with vacant home sites and how to erase the scars left by boom periods should be dealt with by the community and not left to removal by deterioration.

CITY LIMITS LAND USE

The City of Libby has developed quite compactly with no large pockets of vacant land within the developed portions of the city. Vacant land occurs for the most part on the fringes of the built-up area. The city has grown mostly to the south and is fortunate not to be divided by either the river or the railroad. The fact that a large amount of developed land is not under city jurisdiction is an obstacle for municipal integration and healthy community growth. The


N
EXISTING LAND USE
Residential
Commercial Services
Convenience Retail
Primary Retail
Secondary Retail
Industrial
Hotels-Motels
Commercial Recreation
Public Buildings
Public Offices
Private Offices
Public Services
DWELLING UNITS
Trailers
Single Dwelling Units
Multiple Dwelling Units
Commercial
Industrial
GREAT NORTHERN RAILROAD
FIRST STREET
SECOND STREET
THIRD STREET
FOURTH STREET
FIFTH STREET
SIXTH STREET
LINCOLN BLVD
EIGHTH STREET
NINTH STREET
TENTH STREET
BUSH STREET
OAK STREET
COLORADO
NEVADA
IDAHO
MAIN
CALIFORNIA
MINERAL
MONTANA
LOUISIANA
UTAH
DAKOTA
MINNESOTA
WISCONSIN
WASHINGTON
AVE
2
18
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growth outside the city limits is generally the result of a reduced tax base in the county areas. Often, however, the economic gains reaped by living in the county are short lived as lack of sewage facilities, zoning protection for property values, and unplanned developments create adverse conditions for continued residential growth and maintenance. Development in Libby has generally occurred around the major arterials through the city, Highway 2 and State Highway 37. Commercial establishments have developed where traffic volumes are highest, with residential units locating around the commercial areas. Table 29 summarizes land use in Libby.

TABLE 29

LAND USE
CITY LIMITS

	Net Acreage	% of Developed Land	% of Total City Land
Residential	163.1	35.1%	22.6%
Commercial	32.9	7.1%	4.5%
Industrial	12.4	2.7%	1.7%
Public, Semi-Public	76.7	16.4%	10.6%
Parks & Developed Open Spaces	36.5	7.8%	4.1%
Streets	126.2	27.0%	17.5%
Railroad	18.4	3.9%	2.6%
TOTAL DEVELOPED	466.2	100.0%	64.5%
Water	6.4		0.9%
Vacant	249.9		34.6%
UNDEVELOPED	256.3		35.5%
TOTAL LAND	722.5		100.0%

Residential

Residential growth in Libby has been relatively compact in the past. The average residential lot size is moderate. Residential density is 6.6 dwelling units per acre, making an average lot size of 6,600 square feet, or approximately 50 feet by 127 feet. There are few vacant lots within developed sections of the city.

Multiple dwelling units are not significantly concentrated around the Central Business District, as they are in many cities, but are dispersed throughout the residential areas.

Residential development is generally limited to areas west and south of the city. These areas are locales where much development has already taken place. Consolidation of areas outside the city and the concentration of development in the sparser developed areas of the city should be contemplated. This is especially true in the Flower Creek area, the junior high vicinity, and the area south and west of South Libby Addition.

Encroachment of residential areas by commercial or other noncompatible uses has been limited. Overzoning for commercial purposes should be discouraged, and conflicting uses in residential areas should be encouraged to relocate. Expansion of the Central Business District into adjacent areas, notably between Mineral and Louisiana Streets, has partially occurred with some deterioration of structures, as noted in the condition of structures section.

Commercial

Commercial development in Libby has been generally centralized along Highway 2 and along Mineral Avenue from the railroad tracks until it intersects Highway 2. Libby is fortunate to have its Central Business District located on Mineral Avenue, adjacent to Highway 2 and Highway 37. These routes by-pass through traffic while providing good access to the C.B.D. This location for the Central Business District is fairly unique and an asset that should be capitalized on by making the area an attractive place for pedestrian movement.

The Libby Central Business District has suffered some loss of character as businesses have located in lower tax areas rather than filling in the vacant and vacated sites along Mineral Avenue. The location of businesses outside the Central Business District is generally short sighted, for as businesses spread out over larger areas, they lose drop-in trade and lose the power to generate leisurely shopping trips. It is estimated in the economic section that more than 8 million of available retail dollars in Lincoln County were lost to other areas.

A compact shopping district providing adequate off-street parking and creating a pedestrian atmosphere can help recapture some of these lost retail dollars.

Industrial

Industrial use is concentrated along the railroad tracks, with a few warehouses scattered throughout the city. It is unusual for a city the size of Libby serving as the business center for Lincoln County to have so few warehouses and distribution facilities. The largest industrial facility in the area, St. Regis Paper Company, borders the city on the east and generally forms a barrier limiting development east of the city.

Public and Semi-Public

Public buildings are grouped at the southern edge of the Central Business District and are adequately located for good access and central location. Schools are generally well placed in the city, although Highway 2 is a traffic hazard for children living south of it. As development increases west of the city, Flower Creek may become a hazard for elementary school children. Churches are located throughout the city, while fraternal and other service organization meeting places are downtown. Location of these uses in the C.B.D. helps to generate activity in the area during the off-peak shopping hours.

Parks and Developed Open Spaces

Much of the city is without adequate access to park areas. The distribution of park areas is generally on the fringes of the city, with no park facilities in the central city. The amount of park lands and the number of parks is low compared to other cities of similar size. The location of parks near the railroad tracks provides an excellent buffer between residential and industrial uses, and is to be commended. The use of park areas as buffer zones will be recommended in the Comprehensive Plan.

Streets and Highways

Like many cities, the street pattern for Libby is the gridiron. This arrangement, as well as the relatively short blocks, uses a substantial amount of land for streets. The wide streets in the business section are an asset to the city. Lincoln Boulevard is a fine example of community pride and accomplishment.

Streets in newly designed subdivisions throughout the county are conforming more to the topography and are being made narrower to increase the taxable land area and decrease maintenance and construction costs.[1] In addition, these residential streets are carrying less traffic because they are designed only to provide limited access to adjacent property while feeding into major arterials and collector streets.

Comparison with Other Cities

Table 30 compares the developed land uses in Libby with those of other cities in the Rocky Mountain area of comparable size and with an imaginary typical city of ideal proportions. Although the figures are based on land use within cities and do not consider development outside corporate limits, they do provide a relative basis for evaluation. Also, in comparing the level of use in Libby to other cities, it is necessary to consider the contribution of that use to other areas and the maintenance of that use by outside agents. Thus, Libby has a high level of commercial use, not because it is overcommercialized, but because it serves as the primary trade area for all of Lincoln County. The relationship of the figures to the character of each city is emphasized.

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1. Subdivisions today are generally planned with no more than 25 percent of the area in streets.

TABLE 30

CITY OF LIBBY, MONTANA
COMPARATIVE LAND USE DATA

Land Use	Libby, Montana	Shelby, Montana	Conrad, Montana	Livingston, Montana	Gillette, Wyoming	Typical City
			PERCENTAGE OF DEVELOPED AREA			
Residential	35.1	33.5	37.0	37.6	33.6	38.0
Commercial	7.1	6.4	7.0	4.3	8.0	3.0
Industrial	2.7	2.4	6.1*	1.9	3.7	4.0
Public, Semi-Public	16.4	9.0	12.5	5.7	17.0	14.0
Parks	7.8	5.4	1.9	6.4	1.0	7.0
Streets	27.0	41.2	35.6	32.4	26.0	30.0
Railroad Land	3.9	2.1	----	11.6	10.7	4.0
			ACRES PER 1,000 PERSONS			
Residential	49.6	53.2	66.1	43.4	35.8	
Commercial	10.0	10.1	12.5	4.9	8.5	
Industrial	3.8	3.8	10.8*	2.3	4.0	
Public, Semi-Public	23.3	14.2	22.5	6.6	18.2	
Parks	11.1	8.7	3.4	7.4	1.1	
Streets	38.4	65.3	63.6	37.4	27.6	
Railroad Land	6.0	3.3	----	13.4	11.3	
Population at Time of Survey	3,286	3,111	2,770	7,800	4,940	

* Includes Railroad Land

Sources: Northwest Planners Associated, *Shelby, Montana Comprehensive Plan, 1971.*
Northwest Planners Associated, *Conrad, Montana Comprehensive Plan, 1971.*
Bucher & Willis, *Gillette, Wyoming Comprehensive Plan, 1967.*
Consulting Services Corporation and Theodore J. Wirth and Associates, *Livingston, Montana Comprehensive Plan, 1967.*

The percentage of developed land for residences in Libby compares favorably to that found in other cities. A comparison of the acres per 1,000 persons devoted to residential use shows that lot size per dwelling unit is larger than in many other cities. The decreased density of dwelling units is due to many individual land owners who have combined two of the originally platted 25 foot wide lots into a single lot 50 feet wide. This combining of lots is a credit to the city, as it has limited the congestion of housing units and has deterred the deterioration that has occurred in cities where the original 25 foot lots were individually developed. The per capita acreage of residential use for the planning area as a whole, 65.8 acres per 1,000 persons, is significantly greater than the per capita acreage found in any of the cities listed in Table 30. This high per capita figure supports the general observation that a spacious and semi-rural type setting is the preferred residential environment in Libby. The percentage figure for residential use in Libby, though slightly less than optimal, compares favorably to a typical city, see Table 30. This percentage figure for Libby is expected to rise as future developments reflect the desire for open space living.

The amount of land devoted to commercial uses is relatively high, as relected in both percentage and per capita figures. The commercial areas in Libby serve as the major trade center for Lincoln County and a large area of northwestern Montana, and thus the amount of commercial land in Libby is expected to be greater than the amount found in a typical city. The commercial land use per capita figures for the city and total planning area of 10.0 and 7.8 acres per 1,000 persons, respectively, are considered too high despite the large trade area served. The per capita figures for other cities are quite similar to Libby, but in each city (except Livingston) the amount of land devoted to commercial use was in excess of the amount required. Thus, although the analysis cannot indicate exactly how much commercial area is required, it is clearly evident that more land than is required is devoted to commercial enterprise. The excess land area is generally the result of strip developments along Highway 2 and the lack of concentration of the commercial uses that exist in the central city. Again, it is emphasized that a more compact clustering of commercial uses in strategic areas would result in far more efficient use of land and greater convenience to shoppers.

The percentage of industrial land use in the city is considered rather low. This low figure is due in part to a general lack of warehousing facilities. However, the per capita amount of land devoted to industrial use is not significantly different than found in other cities of similar size. When the planning area as a whole is considered, it is found that 18.6 percent of the developed land and 4.4 acres per 1,000 persons is devoted to industrial use. These figures are substantially greater than those normally found for an area such as Libby. This large industrial base is chiefly the result of the St. Regis Paper Company complex. There is, however, an apparent deficiency in small home owned manufacturing or industrial uses. Home owned, locally managed industrial firms are generally the most difficult form of industrial development to establish, but yield the most stable economic return to the community.

Libby has an outstanding level of land base for its public and semi-public uses. This is generally due to acquisition of adequate sites for schools, public buildings, and churches. This is a real credit to Libby for, as seen in the Table 30, many communities are badly lacking in adequate land for providing necessary and essential community facilities.

The amount of land for park and open space use appears good for the city. However, the noncorporate portion of the planning area has only 0.3 percent of the developed land devoted to parks. Since park area for residents in the noncorporate areas is almost entirely lacking, the citizens of Libby are supporting park lands which are used by residents outside the city who do not pay toward park acquisition or maintenance. Thus, what appears to be an adequate

TABLE 31

LAND USE
TOTAL PLANNING AREA

	Net Acreage		% of Developed Land		% of Total Planning Area	
Residential	656.7		28.1%		1.4%	
Commercial	76.9		3.3%		0.2%	
Industrial	436.1		18.6		0.9%	
Public, Semi-Public	175.5		7.5%		0.4%	
Parks	37.0		1.6%		0.1%	
Streets	787.2		33.6%		1.6%	
Railroads	171.3		7.3%		0.4%	
TOTAL DEVELOPED		2,340.3		100.0%		5.0%
Water	814.5				1.7%	
Vacant	44,100.6				93.3%	
UNDEVELOPED		44,915.1				95.0%
TOTAL LAND		47,255.4				100.0%

amount of park land for the city, 9.1 acres per 1,000, is in reality only 3.0 acres per 1,000 when the surrounding area is considered. Pioneer Park and Highwood Park will add to the amount of available park land, significantly, when they are developed and access improved.

The amount of area devoted to streets is another credit to Libby. The amount of land in street use is lower than that found in many smaller cities. This increases the amount of developable and taxable land, as well as reducing costs for street improvement and maintenance. As the vacant lands within the city are developed, the per capita street area is expected to decline.

The amount of railroad right-of-way is normal for a city the size of Libby. The present rail service appears adequate with enough right-of-way available to handle foreseeable demands. Libby is quite fortunate not to have been dissected by the railroad as so many cities have been.

Land Capabilities

Developable land in the planning area is limited. Limiting factors include natural characteristics of topography, soils, drainage, and restraints of land ownership policies. When slope exceeds 25 percent (25 foot rise per 100 horizontal feet), most developments are impractical. Areas with high water tables, unstable subsoil, and flood plains often require large public outlays to sustain developments and often should remain as open space. The land policies of State and Federal agencies often require governmental lands to be managed under a sustained yield principle, thus making them unavailable for private development. The land holdings of St. Regis Paper Company are similarly managed.

Major developments in the Libby area are limited for the most part to the present urban area, extending south along Highway 2 to White Haven and west to Huffman Acres. Developments, especially south of Libby, will need to consider the high water table, as well as the drainage characteristics of Libby and Flower Creeks. Development potential for areas north of the Kootenai River is limited to areas adjacent to the river, due to topographic constraints near the western and eastern edges of the planning area and the National Forest which occupies most of the lands north of the river along Pipe Creek Road. Areas for private use southwest and southeast of Libby are limited by topography and land ownership constraints. St. Regis has large holdings southwest of Libby, while the U. S. Forest Service controls most land southeast of the city.

Floor Space Inventory

Floor space provides a more accurate measure of the distribution and intensity of commercial and industrial activity than does land use acreage data. For this reason, an inventory of the gross floor area of all commercial and industrial uses was made. This inventory included manufacturing, wholesaling, retail, service, and other commercial uses. The number of establishments in each type of use and their accompanying sales are given in the economic chapter. This section provides data on gross floor space for the various types of establishments. Approximations for future floor space requirements are given in the economic chapter. These approximations are for net floor area or sales area. Gross floor area includes storage areas and other non-sales areas.

Commercial covers a broad range of uses, including retail, service, office, recreation, and hotels-motels. Retail uses have been segregated into three categories: convenience (grocery, drug, and gas stations), selling goods on a "drop-in" basis; primary (department, apparel and jewelry stores, supermarkets, and variety stores) where parking is a primary consideration; and secondary (consumer goods requiring special handling or storage facilities and wholesaling firms). The service classification includes repairs, transportation depots, and personal care; the office classification consists of banking, professional services, and administrative offices; and recreation comprises theaters, bowling alleys, and billiard halls. Industrial uses include manufacturing, machine shops, warehousing, open storage, and heavy industrial repair or fabricating shops. The St. Regis Paper Company complex is not included in this floor space analysis because the large amount of floor space associated with the plant would have obscured the statistics of smaller industrial uses.

The inventory recorded over half a million square feet of floor area in the planning area. Industrial floor space accounted for over 25 percent of the total floor space, while primary retail followed closely with 23.9 percent. This high percentage of industrial is significant, showing that even without considering St. Regis, a large sector of private enterprise is devoted to industrial pursuits. Tables 32 and 33 give the amount and percentage of floor space for different sectors of the planning area. The following map gives a detailed picture of land use and building location for the central city.

All retail uses combined accounted for the greatest percentage of floor space, comprising 48.3 percent of the total.

Table 33 shows that 62.2 percent of all commercial floor space is contained in the central city area of Libby. This figure indicates that the central city is losing its dominance as the center of trade and business activity. The fact that 74.4 percent of the vacant commercial floor space is in the central city gives further evidence of this decline. It is reassuring that less than five percent of the floor space in both the planning area and the central city is vacant. But, with completion of Libby Dam, this figure can be expected to rise. Steps should be taken to limit the percentage of vacancy in the central city, as continued vacancy can lead to increased deterioration of structures in the central city and a further decline in business activity. However, the central city still has a high percentage of the total floor space for primary retail, 84.3 percent, and office use, 95.4 percent. This indicates that although the

TABLE 32

TOTAL CITY OF LIBBY

	Square Feet	Percent of City Floor Space	Percent of Total Floor Space
Retail			
Primary	140,953	30.6%	22.0%
Secondary	56,568	12.3%	8.9%
Convenience	39,333	8.5%	6.2%
Commercial Services	40,192	8.7%	6.3%
Industrial	81,276	17.6%	12.7%
Commercial Recreation	26,434	5.7%	4.1%
Public Offices	6,625	1.5%	1.0%
Private Offices	42,332	9.2%	6.6%
Vacant Commercial	27,062	5.9%	4.2%
TOTAL	460,775	100.0%	72.0%

TABLE 33

CENTRAL CITY OF LIBBY

	Square Feet	Percent of Central City Floor Space	Percent of Total Floor Space
Retail			
Primary	128,913	32.3%	20.1%
Secondary	56,568	14.2%	8.8%
Convenience	36,701	9.2%	5.7%
Commercial Services	34,452	8.6%	5.4%
Industrial	45,830	11.5%	7.2%
Commercial Recreation	26,434	6.6%	4.1%
Public Offices	6,625	1.7%	1.0%
Private Offices	40,442	10.2%	6.3%
Vacant Commercial	22,698	5.7%	3.6%
TOTAL	398,663	100.0%	62.2%

TABLE 34

TOTAL PLANNING AREA

	Square Feet	Percent Total Floor Space
Retail		
Primary	309,265	23.9%
Secondary	96,755	15.1%
Convenience	59,654	9.3%
Commercial Services	50,293	7.9%
Industrial	165,843	25.9%
Commercial Recreation	34,767	5.4%
Public Offices	6,985	1.1%
Private Offices	42,332	6.6%
Vacant Commercial	30,516	4.8%
TOTAL	640,001	100.0%

TABLE 35

NON-CORPORATE PLANNING AREA

	Square Feet	Percent Non-Corporate Floor Space	Percent Total Floor Space
Retail			
Primary	11,903	6.6%	1.8%
Secondary	40,187	22.4%	6.3%
Convenience	20,321	11.4%	3.2%
Commercial Services	10,101	5.6%	1.6%
Industrial	84,567	47.2%	13.2%
Commercial Recreation	8,333	4.7%	1.3%
Public Offices	360	0.2%	0.1%
Private Offices	----	----	----
Vacant Commercial	3,454	1.9%	0.5%
TOTAL	179,226	100.0%	28.0%

TABLE 36

CONDITION OF STRUCTURES

	CITY AREA				TOTAL PLANNING			
Category	Standard	%	Substandard	%	Standard	%	Substandard	%
Residential	903	86.5%	141	13.5%	2,675	86.0%	434	14.0%
Commercial	100	87.7%	14	12.3%	162	89.5%	19	10.5%
Industrial	19	61.3%	12	38.7%	81	74.3%	28	25.7%
Public, Semi-Public	27	84.4%	5	15.6%	39	86.7%	6	13.3%
TOTAL	1,049	85.9%	172	14.1%	2,957	85.9%	487	14.1%

central city is declining, it is still strong enough to retain its principle uses.

A large amount of commercial service is conducted in the central city which might well be better located in a highway commercial area. The central city has twice as much commercial service as is found in the rest of the city. Oftentimes services such as automotive repair shops create undesirable effects on the central shopping district, especially with regard to traffic and parking. Industrial uses in the central city may also have similar undesirable effects, especially when they are not concentrated. Industrial uses are presently scattered throughout the central city instead of being concentrated along or near the railroad tracks in a compact, efficient cluster.

Industrial uses in the noncorporate area, which accounts for 47.2 percent of the floor space for this area and 13.2 percent of the total floor space, is also scattered and unclustered. The location of industrial uses next to retail establishments detracts from their image and lowers their ability to attract shoppers. Industrial development should be encouraged to cluster and form planned industrial areas where traffic access can be designed to limit congestion and increase traffic movement.

Observations:

1. Business activity in the central city is declining.

2. Vacant areas and buildings in the central city are not being redeveloped.

3. Secondary and convenience retail are locating outside the city.

4. Available sales dollars in Lincoln County, amounting to $8 million are spent outside the county. This amounts to nearly 40 percent of the actual sales in Lincoln County.

5. Industrial development in the city and the planning area is scattered and unclustered.

6. Intermixing of uses results in increased rates of structural deterioration.

7. Lack of clustering of business reduces the amount of business and degrades the promotional base of the business community.

8. The central city is still vibrant and the main shopping district for the county.

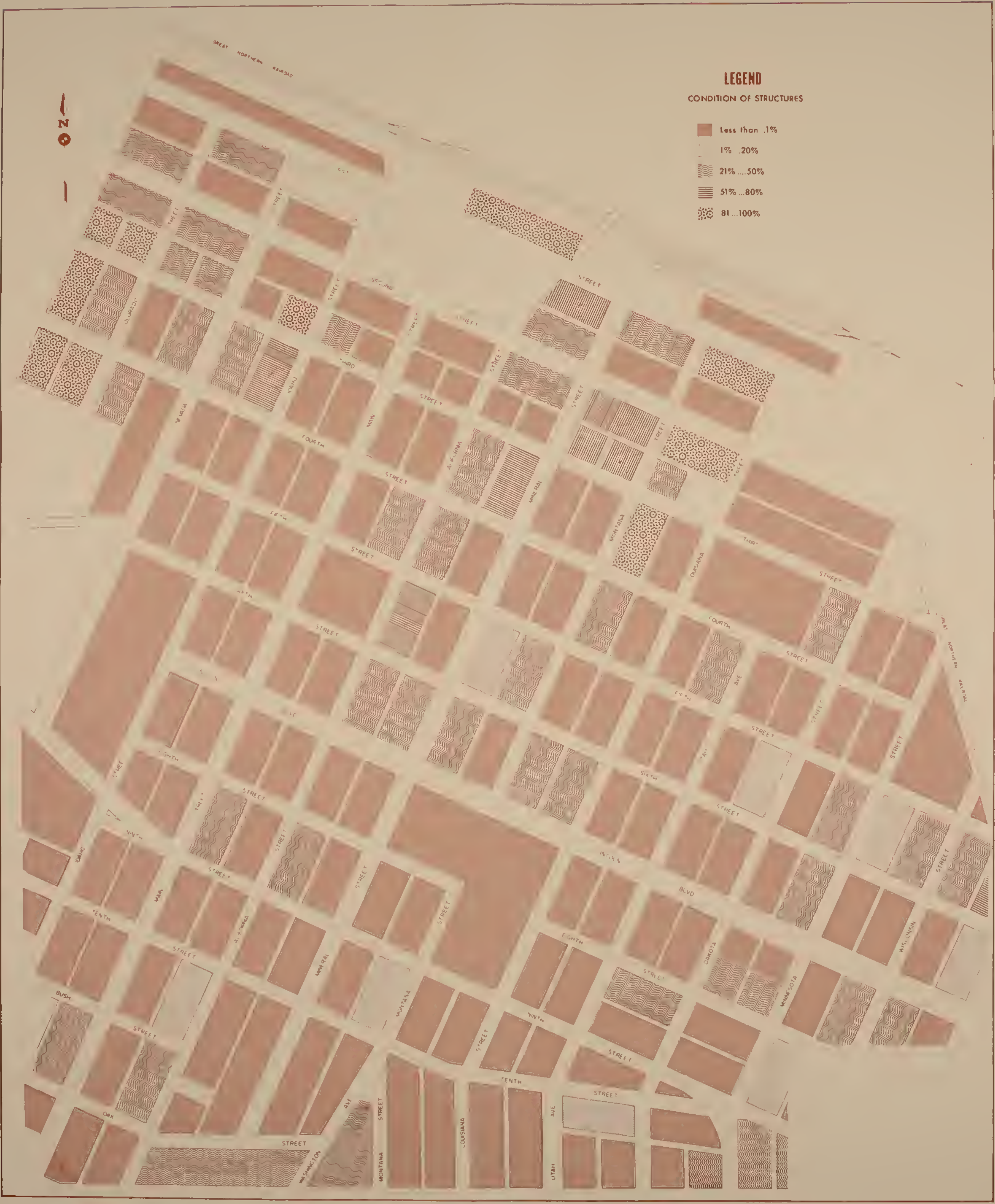
9. The central city has the potential for increasing its attractiveness, promotional base, and sales level.

Condition of Structures

A condition of structures survey was conducted in conjunction with the land use survey. Structures in the planning area were evaluated according to criteria developed by the Montana State Department of Planning. Each structure was evaluated and rated on the basis of its foundation, walls, windows, roofs, and chimney. Structures were then determined to be either substandard or standard. The condition of structures survey considers only the exterior condition of buildings; however, it gives a relative indication of the quality of structures within the community. The standard criteria for structural condition that was used makes it possible to compare the condition of structures in Libby to other communities.

In preparing the analysis of condition of structures for the Libby planning area, two generalized condition of structures maps were prepared, showing the condition of structures in the central part of Libby and the condition of structures in the entire planning area outside the central city. In order to determine the area of structural deterioration, the data was platted by half block averages for the central city and by general groupings for the planning area. In addition to the two maps, Table 36 was prepared showing the number and percentage of various type buildings in the standard or substandard classification for the city and total planning area.

Table 36 shows that only 14.1 percent of all structures are considered substandard, both in the city and total planning area. Although data on


LEGEND
CONDITION OF STRUCTURES
Less than .1%
1% .20%
21% 50%
51% ...80%
81 ...100%
N
GREAT NORTHERN RAILROAD
SECOND
THIRD
FOURTH
FIFTH
EIGHTH
NINTH
TENTH
STREET
MAIN
ALABAMA
MINERAL
MONTANA
LOUISIANA
DAKOTA
MINNESOTA
WISCONSIN
UTAH
WASHINGTON
OHIO
BUSH
OAK
AVE
BLVD
GREAT NORTHERN RAILWAY

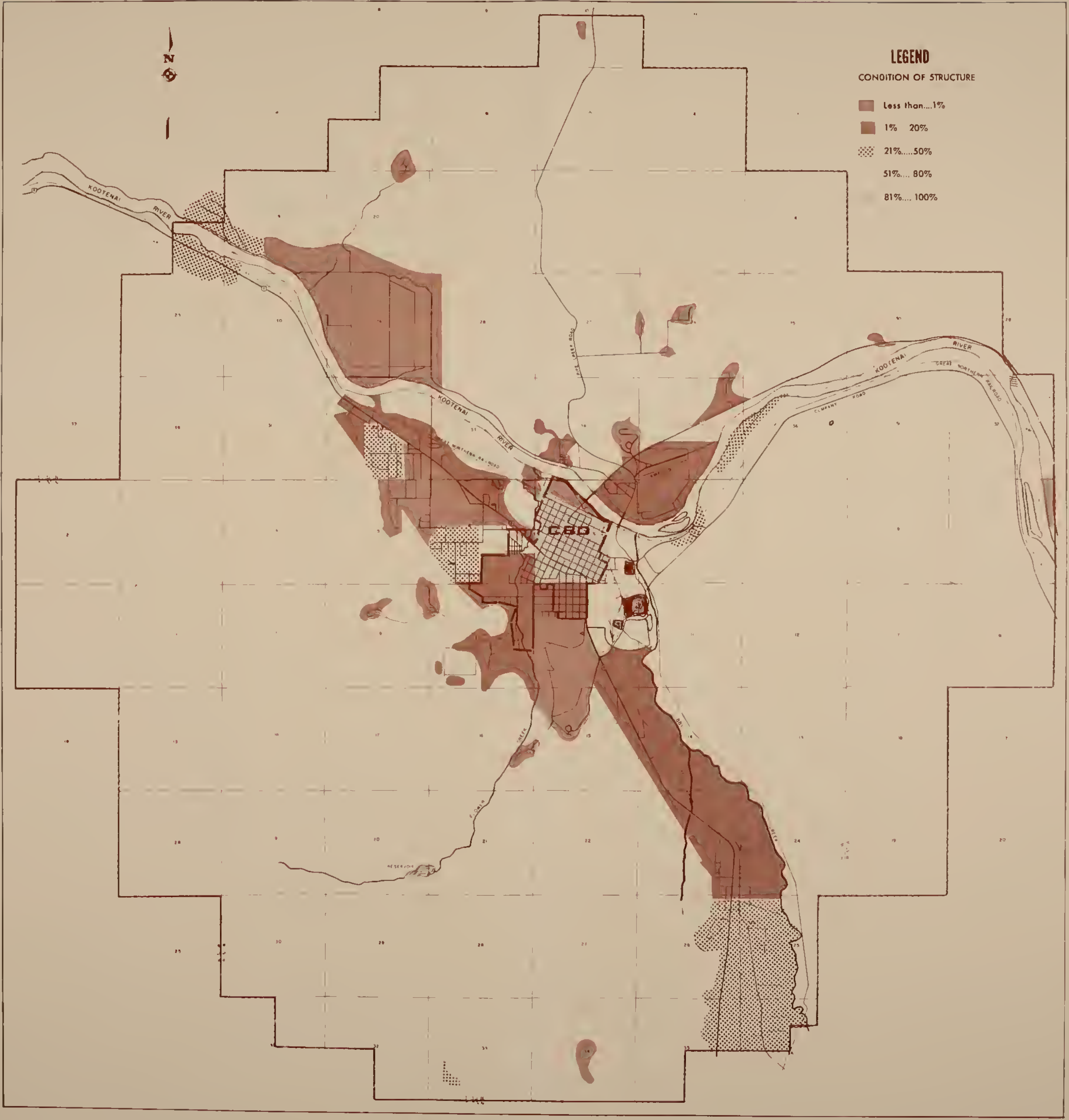
condition of structures for other cities is somewhat limited, 14 percent is a relatively low figure. The highest percentage of deterioration occurs in the industrial sector, followed by the public and semi-public category. The high percentage of substandard public and semi-public buildings is largely due to several meeting halls for fraternal type organizations which are in need of some repair. Residential deterioration is dealt with specifically in the housing chapter, but the 14 percent figure for substandard residential units is relatively low.

Although deterioration in the area is limited, there are reasons to believe that blight will increase if steps are not taken. The major amount of deterioration in the area appears to be the result of an intermixing of different types of land use, such as industrial, commercial, and residential. This creates an environment that is not favorable for any of the uses carried on in a specific area. The traffic required by the commercial has deleterious effects on residences and the residential takes up space needed for commercial parking. Thus, a lack of confidence by both residential and commercial property owners ensues and neither owner properly maintains his property. When property owners cannot determine if adjacent property will be used in a compatable manner, pride of ownership is decreased. Without the confidence that an investment in home improvement and maintenance will be realized in resale value, necessary upkeep is not carried out. The same is true of commercial or industrial property where residential uses encrouch on access and interfere with the free flow of vehicular or pedestrian traffic. Because new development has had substantial land area in which to move, there has been little impetus for redevelopment of existing structures or land. As mentioned in the land use section, the resulting widespread developments causes a taxing of utilities servicing both business establishments and residential areas. Incompatable land uses should be segregated, especially in regard to residential developments.

In addition, many substandard industrial buildings are abandoned and residential developments are encroaching upon them. These old structures cause safety hazards; demolition of these buildings and re-use of the land should be considered.

As seen on the jurisdictional condition of structures map, deterioration is greatest along Highway 2, both south and west of the city. These are the areas where the greatest amount of land use intermixture has occurred. Deterioration has generally been scattered and has not reached the point of developed pockets of blight. Deterioration in the central city is also generally scattered. Two areas do show a slight concentration of blight: along the east side of California Street and spreading east, and in the northwest part of the city. The area east of California is generally a mixture of residential and commercial where deterioration in the northwest is the result of a few deteriorated residences on generally vacant blocks or older residences in need of some repair interspersed with standard houses.

Several means are available for deterring continued deterioration and for improving existing areas of deterioration. Consistent zoning and building code administration can do much to stimulate self improvement. Zoning guarantees certain development rights and responsibilities to certain areas and parcels of land. In return for abiding by the zoning regulations, a property owner is assured that his neighbors will do likewise. Neighborhood improvements such as lighting, street paving, improved drainage, utility improvements, and visual enhancement can stimulate new development and community pride. New parks in residential areas and new parking areas for customers in commercial districts can increase community solidarity in the development stages and in the usage of these facilities. Neighborhood clean-up campaigns organized by service groups or simply interested citizens can stimulate community pride.


N
LEGEND
CONDITION OF STRUCTURE
Less than....1%
1% 20%
21%.....50%
51%.... 80%
81%.... 100%
KOOTENAI RIVER
KOOTENAI RIVER
KOOTENAI RIVER
GREAT NORTHERN RAILROAD
GREAT NORTHERN RAILROAD
COMPANY ROAD
PIPE CREEK ROAD
CBD
RESERVOIR

Housing

Housing in the Libby planning area was briefly discussed under residential land use in the land use inventory section. First count data from the 1970 Census provides additional information on the existing housing situtation.

In 1960 there were 4,245 housing units within Lincoln County, with almost three out of every four units of the rural non-farm type, and only one unit in five located in the urban centers. In 1970, housing units had increased by 1,668 units to 5,913.[1] Although information from the 1970 Census, which breaks down housing units into the farm and non-farm categories is not yet available, data does show that over four out of five (82%) of the housing units are located in rural areas and that less than one unit in five (18%) is located in an urbanized area. The increase in rural[2] housing units is in accord with population data which shows an increase in the percentage of persons living in rural areas, from 77.4 percent of the county population in 1960 to 18.1 percent in 1970. Housing and population data supports the assumption of the Comprehensive Area Wide Water and Sewer Plan, which states, "The population growth in Lincoln County, present and future, seems to indicate that the rural non-farm areas will continue to serve as an attractive location for residential development."

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[1] Six additional mobile homes were discovered to have located within the City of Libby between the time that the U. S. Census was taken in April, 1970, and the land use inventory taken in September, 1970. These six additional units were incorporated into the Census data and considered in all tabulations and analysis.

[2] Rural areas include incorporated towns with a population under 2,500.

1970 Census data shows that there were 5,304 occupied dwelling units in Lincoln County. Owners occupied 3,810 or 72 percent of the dwelling units, while 1,499 or 28 percent were occupied by renters. Within the City of Libby there were 1,008 occupied dwelling units, of which 658 or 65 percent were owner occupied and 350 units, or 35 percent were renter occupied. As expected, the percentage of renter occupied units is greater in the urban area. The percentage of owner and renter occupied units is about average for Libby, in comparison to other cities of similar size. The percentage figures for the state as a whole are 66 percent owner occupied and 34 percent renter occupied. Thus, Libby compares almost identically to the state figures. Ownership in the county is above the state average, but comparable to most other rural areas.

Average value for owner occupied units in Lincoln County is listed at $13,864 by the U. S. Census. For the City of Libby, the average value is slightly higher at $14,242. This difference in valuation may be due in part to the poorer condition of some occupied houses outside the city limits and the lack of adequate water or sewage facilities for a higher proportion of rural homes. Value of owner occupied homes in the county as a whole is significantly below the statewide average of $15,475. It should be recognized that the value of most owner occupied homes in rural counties is generally below the state average. Lincoln compares favorably with other counties in the State of similar size and character. For the City of Libby, the value of owner occupied homes is also below the statewide average, as are the value of homes in most of the smaller cities in the State. Home value in Libby, when compared to other cities, is about average or slightly below. The average value of the units which are for sale in the county is listed at $12,130, while in the city the value of such units is only $9,083. The number of units for sale in the county and city are limited and thus any generalization on the differences in valuation between city and county homes is presumptuous.

Census data for 1970 shows the average rent paid for renter occupied dwellings in the city and county is $83.00 and $76.00 per month, respectively. The $76.00 per month average rent figure for Lincoln is substantially above the figures for other counties of similar population. The city figure of $83.00 per month is well above the average rent paid in other cities of similar population and above the state average rent figure of $78.00 per month. The high rent is probably the result of increased demands brought about by Libby Dam construction. As dam construction declines, it seems appropriate to begin reevaluating the rent structure in the area to bring it back into line with other areas of the state. This may already be happening, considering the rent rates being asked for vacant rental units. Average rent value of the units that are temporarily vacant is calculated to be $78.00 per month for city units, and $60.00 per month for county units. Average monthly rent figures are suggested to be approximately 25 percent of a person's monthly net income by the Federal Housing Administration. This 25 percent figure, however, is regarded by some to be too high. Rent rates should be regarded in light of income characteristics. As shown in the population chapter, the income in the area does not substantially differ from that for the State as a whole, except in the number of persons in the middle and lower middle income brackets. As the dam impact declines, it can be expected that the remaining population will be more stable and inclined toward home ownership. Thus, the demand for rental units will generally decrease, resulting in a relative increase in demand for rentals by the people in the lower income groups, such as young families or retired persons. (Rental prices in the city are generally higher than rural rental rates due to conveniences, such as nearness to shopping and work).

Census data for 1970 shows 598 vacant units in the county. Of these, 26 units are for sale, 139 units are for rent, 137 are vacant for seasonal periods only, and 296 are vacant for undisclosed reasons. Within the city limits there are 44 units vacant, of which 19 units are for sale, 7 units are for rent, and 23 are vacant for undisclosed reasons. The percentage of vacant units in the county was 10 percent, while in the City of Libby it was only 5 percent. This percentage difference is probably the result of two factors: (1) the existence of seasonally vacant homes, summerhomes, etc. which are counted as vacant, and (2) the decline of construction on Libby Dam, resulting in some out-migration of workers, the majority of whom resided outside of Libby. This 10 percent vacancy rate in the county is below the state average of 12 percent and generally below the vacancy rate for most similar counties. The 5 percent vacancy rate in Libby is about one-half the vacancy rate in most cities the size of Libby in Montana. These low vacancy rates are probably also due in large measure to the Libby Dam impact.

TABLE 37

Type of Units	City Limits		Planning Area	
	Number	% of City Units	Number	% of City Units
Single family	909	85%	2,092	67%
Multiple family	147	14%	193	6%
Mobile homes	15	1%	852	27%
TOTAL	1,071		3,137	

Condition of Structures

	City Limits				Planning Area			
	Standard	% City Units	Sub-Standard	% City Units	Standard	% Total Units	Sub-Standard	% Total Units
Single family*	779	88%	103	12%	1,779	86%	286	14%
Multiple family	115	78%	32	22%	148	77%	45	23%
Mobile homes	9	60%	6	40%	749	88%	103	12%
TOTAL	903	86%	141	14%	2,675	86%	434	14%

* 27 Units Unclassified

Of the total housing stock in Lincoln County in 1970, 4,119 or 70 percent of the units consisted of single family residences, 363 units, or 6 percent, were multiple family units, 1,294 units, or 22 percent, were mobile homes, and 137 units, or 2 percent, were unclassified. In the jurisdictional planning area, 3,137 housing units were counted, with 2,092 units, or 67 percent, single family type residences, 193 units, or 6 percent, multiple dwelling units, and 852 units, or 27 percent mobile homes. In the City of Libby, the only urban classified center, there were 1,071 units with 909, or 85 percent, of the units in the city single family residences, 147 units, or 14 percent, in multiple family units, and only 15, or 1 percent, mobile homes. The low number of mobile homes in Libby is the result of a city ordinance limiting the placement of mobile homes within the city limits. The most significant observation about the distribution of types of structures in Lincoln County is the exceedingly large percentage of mobile homes - 22 percent, compared to only 6 percent for the State as a whole. Lincoln County has more mobile homes than any other county in the State, except Missoula County. This again is obviously because of the Libby Dam impact. In the jurisdictional planning area an even larger percentage of mobile homes is found. In contrast to the high percentage of mobile homes is the relatively low percentage of multiple dwelling units. Generally it is expected that 20 percent of the dwelling units would be multiple dwelling units. Rural counties in Montana usually have from 8 percent to 15 percent of the housing units in multiple dwelling with the larger populated counties going as high as 30 percent. It is most probable that the high number of mobile homes has displaced the apartment house in Lincoln County. There is little doubt that the enjoyable outdoor environment is largely responsible for this desire to be in lower density housing units. The percentage of single family units in both the county and planning area is slightly below the State average of 75 percent. The number of single family units in the City of Libby is greater than that found in most cities, even in rural areas of Montana. This is mostly due to the absence of mobile homes. The percentage of multiple dwelling units is slightly below the average for Montana cities of similar proportion.

Data gathered shows 5,913 total units for the county, with 3,137, or 53 percent, of these units located within the jurisdictional planning area, and 1,071 units, or 18 percent, are within the city limits. The low percentage of housing units in Libby compared to Lincoln County as a whole is directly related to the limited amount of urbanization that has taken place in Lincoln County. It is important to note the large percentage of housing units in the planning area. This indicates a concentration of population and housing even though such concentration is not substantially organized by an incorporated city. Such concentration, further (of course), indicates a need for planning.

Data gathered for the preparation of this report shows that there are 432 dwelling units in need of repair in the planning area, and 139 units needing repair within the city limits. This amounts to [illegible] percent of the dwelling units in the planning area and 14 percent of the dwelling units in the city. Table 37 shows the number and percentage of each type of dwelling and its structural condition. Census data for 1970 shows that 567 occupied units, or 7 percent in the county, do not have complete plumbing facilities and that 419 units, or 8 percent, do not have access to flush toilets. The 1960 Census of Housing showed that 13.5 percent of rural homes do not have a piped water supply and that 26.5 percent have no means of sewage disposal or use forms other than sewers, cesspools, or septic tanks. This compares to only 2 percent of the dwelling units in Libby without piped water and only 1 percent without recognized sewage disposal facilities. The data for the county indicates a substantial improvement in housing conditions. In 1960, again from the U. S. Census of Housing, 29 percent of the housing units needed repair and 12 percent needed replacement. Although data is not yet available for 1970, the previous stated plumbing data points to an improvement of housing condition. It seems reasonable to assume that as the demand for housing in Lincoln County increased in the 1960's, many of these units were repaired. The percentage of substandard units in both the city and planning area is considered average, or better, although data for cities is generally lacking and data is not yet available from the 1970 Census. Condition of housing units is one area where comparisons are hazardous. No area should allow deteriorated housing to go unrecognized even if the number of units is below the norm for most other areas. The Comprehensive Area Wide Water and Sewer Plan, completed in 1970, states that, "if the quality of living conditions, in the rural, non-farm area, is to equal those of the urban areas, attention needs to be directed towards upgrading their deficiences (sewer and water facilities) more so than those existing elsewhere in Lincoln County." Condition of most residential strustures is generally adequate except as mentioned above. There are no "hard-core" pockets of residential blight in the planning area and the deterioration that does exist is scattered only intermittently throughout the area.

It is expected that within the next five years those dwelling units classified as substandard will be replaced. This amounts to 141 new units for the city and 432 new units in the planning area as a whole.

With the high cost of individually constructed single family residences, an increase in multi-family or mobile home type dwelling units is expected. In 1969, two-thirds of the homes purchased for under $25,000 were mobile homes. A radical change is expected in both the appearance and image of mobile and modular homes in the next decade. Modular type housing and modular complexes for multi-family residences will probably be commonplace within the next twenty years.

Housing Forecasts

Analysis of income data for Lincoln County show over 70 percent of the people make under $7,000 per year. Assuming that 25 percent of their net income will be spent for housing, all of these people will be living in houses valued at $25,000 or less. If the trend in income level continues, and if the trend in mobile and modular home construction continues, then during the planning period it can be expected that at least 50 percent of the new housing will be of modular design. Taking into account the increasing acceptance of modular type housing and the popularity of mobile homes in Lincoln County, it is quite possible that 75 percent of the new units constructed in the county in the next 20 years will be modular homes.

In order to predict future housing demand, three items are necessary: (1) density per housing unit, (2) a base population, and (3) projected population changes. In the housing projection, two sets of figures will be given: one for the City of Libby, and one for the planning area as a whole. The distinction is made because it is felt that type of housing and neighborhood conditions for housing in the city will be quite different then housing outside the city limits. Residential development outside the city is expected to take the form of rural and ranch type subdivision, rather than the higher density type configuration found in the city.

Present population-housing density in the city is 3.26 persons per dwelling unit and 3.40 persons per dwelling unit in the county. The 3.40 persons per dwelling unit figure is assumed for all areas in the planning area outside the city limits. These figures, as pointed out in the section on population, are less than their 1960 counterparts. This decline is due in large measure to decreased fertility rates.

TABLE 38

POPULATION PROJECTIONS

Year	Census Division	Total Planning Area	City of Libby	Planning Area Outside City Limits
1970	12,045	9,986	3,286	6,700
1975	11,100	9,270	3,330	5,940
1980	11,600	9,780	3,860	5,920
1985	12,100	10,340	4,600	5,740
1990	12,700	10,910	5,080	5,830

It is anticipated that fertility rates will continue to fall as awareness of population control and population planning increases. In light of this dynamic situtation it is realized that the present density figures will not remain constant. But, because of a lack of alternative figures and clairvoyance, the 1970 density schedule will be used as a basis for projecting future housing demand.

A base population figure of 3,286 persons is given by the Census for the City of Libby. Base population for the planning area, not including the City of Libby, was estimated to be 6,700. This figure was derived by applying the county wide density per dwelling unit figure to the number of occupied units in the area outside the city. The percentage of population living outside the city limits but within the jurisdictional area is 76.5 percent of the population living outside the City of Libby but inside the Libby Census Division. For projection purposes it is assumed that this same percentage will apply to future populations living in the planning area outside the city. Table 38 gives a projected population for the Libby Census Division, the total planning area, the City of Libby, and the area within the jurisdictional planning area, but outside of the city limits.

We now have all the tools required for projecting future housing requirements. Due to the complexity of the housing market, only the number of housing units required is given. The type of housing unit that will be built to meet the projected demand is not predicted.

As seen in Table 38, the projected population for the planning area is expected to undergo a substantial population decline in the next five years. As stated in the population chapter, this decrease is basically the result of the decline in dam construction. This decline is expected to have the greatest effect on areas outside of Libby. As seen in Table 38, population will decline in the planning area, but not in the city. The decline in the planning area outside the city is expected to suffer such a sharp decline that within the foreseeable future no new structures, except for replacement, are expected to be needed. In the planning area outside the city there are 293 substandard housing units which are expected to need replacement by 1975. In addition, it is expected that many of the mobile homes and other temporary housing constructed because of dam construction will be expanded or replaced. Already some improvements to these type of units is commencing in several locations.

In line with the trend toward greater urbanization, Libby's population is expected to become a significantly greater percentage of the total county population. The need for increased water an especially sewer facilities in the planning area should be an impetus for expanding the city land base through utility and city service extensions and annexation. It is recognized that some of the projected housing demand will occur outside the present city limits, but it is assumed that annexation of these areas will occur. It is felt that with adequate provision of services and planning by the city, most, if not all, future housing in the area will be under city jurisdiction.

Between 1970 and 1975, population in Libby is expected to increase by only 44 people. There are presently 40 vacant housing units in standard condition, with an estimated capacity of 65 people. Thus, no new units are anticipated to be required in the city to meet this population increase. It is expected, however, that the 141 substandard housing units will be replaced by 1975.

Between 1975 and 1980, an additional 530 people are expected to be living in Libby. This population increase will require an additional 162 housing units, six of which are presently vacant and available. Thus, between 1975 and 1980, 154 new units are projected to be needed. Between 1980 and 1985, 227 new units are projected to be needed, and between 1985 and 1990, 147 new units are projected.

In the next 20 years, it is projected that 663 new units will need to be available in Libby and that a total of 962 new units will be needed in the entire jurisdictional area.

Although it is expected that most new homes in the planning area will be located within Libby city limits, it is anticipated that rural homes in Lincoln County will increase after an initial decrease brought about by declining dam construction. A large proportion located in the county are expected to consist of ranch type estates, summer home cottages, and a few low density rural subdivisions.

TABLE 39

HOUSING FORECASTS

	CITY		TOTAL PLANNING AREA	
	Population	Dwelling Units	Population	Dwelling Units
1970	3,286	1,068	9,986	3,134
1975	3,330 (44)	1,209 (141)*	9,270 (716)	3,566 (434)*
1980	3,860 (530)	1,357 (154)	9,780 (510)	3,716 (154)
1985	4,600 (740)	1,584 (227)	10,340 (560)	3,943 (227)
1990	5,080 (480)	1,731 (147)	10,910 (570)	4,090 (147)
TOTALS	5,080 (1,794)	1,731 (663)	10,910 (924)	4,090 (962)

* Substandard Unit Development

(Increases)

CHAPTER IV

COMMUNITY FACILITIES

GOVERNMENTAL FACILITIES

City Hall

The City Hall houses the City Clerk's office, the City Council meeting room, the City Police Department, and the Libby Volunteer Fire Department. Located on Mineral Avenue, just north of Lincoln Boulevard, the City Hall is readily accessible to the Central Business District and to the community in general. Site area for the facility is only 0.51 acres, equivalent to seven 25 x 127 foot city lots. The surrounding area is developed with no room available for expansion. Limited parking is provided east of the building on a 50 x 127 foot vacant lot.

The City Hall building is a single story structure in fair condition, with 2,860 square feet of usable floor space. An additional 525 square feet is located in the basement and is used as the boiler room. In this small area is housed the city offices, the Police Department, and the City Jail. In 1962, the Fire Station addition was constructed adjacent to the City Hall. This facility adds 8,439 square feet to the City Hall Complex.

City Hall facilities available to the Police Department consists of two offices. One office is used for general administration and communications, while the other is used for the Chief of Police office, the Police Court, an interrogation room, and as a library and filing room. City Jail facilities consist of a drive-in garage with electrically operated doors for prisoner transfers, three cells capable of sleeping ten (10) prisoners (with separation for women or juveniles) and an indoor firing range. The Police Department is manned by six (6) patrolmen, a chief, and one office clerk. The police force is supported by two radio-equipped patrol cars connected to the communications center at the City Hall and at the Sheriff's office. In-service training of patrolmen is conducted with the use of films and other materials. Room for training and support facilities is inadequate.

The Fire Station is fairly new and spacious. It appears that the station house is presently adequate. A detailed list of fire fighting equipment is given in the water section of the Public Utilities section. The Montana Fire Rating Bureau has given Libby a Class "6" fire rating, which is about average for smaller cities in Montana. Major recommendations by the Fire Rating Bureau for improvement of this rating are: replacement of 4 inch water mains, looping of water supply lines, locating gate valves to prevent single breaks in the water supply system from disrupting water supply to large areas, regular training drills for the volunteer fire department, additional salvage equipment, keeping of complete fire department records, and the installation of an automatic fire alarm telegraph system.

County Courthouse

The Lincoln County Courthouse, built in 1933, is a two story structure housing the various county offices, the judicial branch of county government, the Sheriff's office, and the County Jail. The structure is located on Highway 37 and is well situated in relation to the Central Business District. The courthouse block consists of 1.74 acres, which is shared with the library. The site is attractively landscaped with some room available for expansion. Parking is available, but additional off-street parking is needed. The courthouse building was originally built with 16,896 square feet of floor space, but an addition in 1964 expanded the floor area to 19,206 square feet. The building is in generally good condition with the entire courthouse complex, including the library, conveying an attractive image for the community.

Facilities in the courthouse for the Sheriff and County Jail are generally crowded. The Sheriff's office, interrogation room, and filing room are all located in one room, with an additional room for identification, photography, and fingerprinting processes. The Sheriff's Department is manned by one Sheriff, five deputies, and one undersheriff. The communications center for the department is operated 24 hours and manned by three women. Communications for the city police department is handled through this center during evening hours and weekends. The County Jail, located in conjunction with the Sheriff's office, has four cells, each holding four prisoners, and a separation cell with room for one prisoner. A "tank" type cell unit with a capacity of eight prisoners is located on the upper floor.

Additional services housed in the courthouse are a J.P. Court, a search and rescue service, and a room for civic group meetings.

The courthouse complex is generally adequate, with the exception of law enforcement offices and jail facilities.

There is a need for additional office space for the County Sheriff's Department. The jail facilities lack a garage for prison transfer and a padded cell. The padded cell is needed because there are presently no such facilities in the entire county.

In view of the crowded conditions of both city and county law enforcement agencies, the possibility of a combined City-County Law Enforcement and Jail Complex should be considered.

EDUCATIONAL FACILITIES

The importance of education for all people in our society cannot be overstressed. The ability of education to affect human resources and provide the tools needed by our young to cope with the rapid changes in our society and our environment is the primary determinate of our future way of life.

This section is concerned with the physical and locational aspects of the school system in the Libby jurisdictional planning area. While this inventory does not deal directly with the quality of education service, which is largely determined by the content of the school program and the teachers, it should be evident there exists a relationship between education quality and the environment in which the educational experience is conducted. Overcrowded and poorly lighted or ventilated classrooms, insufficient study room facilities, outdated laboratories, and inadequate indoor and outdoor recreational areas are all factors which influence the learning experience.

General

The Libby School District, District #4 in Lincoln County, is comprised of seven school units. Six of these units are within the planning area and are listed in Table 40. The seventh school, Crystal Lake, has one classroom and is located forty miles west of Libby on Highway 2, outside the planning area. The Libby School District operates on a 6-3-3 plan, with an enrollment of 3,239 regular students within the planning area in the 1970-71 school year. In 1970, District 4 had a taxable valuation of $10,145,513 and a levy of 45.789 mills. The levy on the residents of District 4 for the support of their educational program is not significantly different from school levies in similar districts in other parts of the state.

Characteristics of Existing School Units

Plummer Elementary School is located about two miles west of Libby on Indian Head Road, just south of Highway 2. The school is of block construction, built in 1960, and was added to in 1967. The school has a modern design with adequate lighting, ventilating, and parking facilities. The school has twelve classrooms, a combination gymnasium and multi-purpose room, and adequate office space, teacher's rooms, lavatories, and dressing rooms. Plummer School is located on 11.60 acres of land, which is above the minimum recommended site area and just below the average site area for elementary schools of 12-14 acres. There is vacant land available around the school should future expansion be needed. The location of the school is well suited to serving the needs of the surrounding residential areas. As pointed out in the land use section, the area around the school is expected to receive a major proportion of any future population growth in Libby. Precautions should be considered to limit traffic on Indian Head Road

TABLE 40

EXISTING CLASSROOMS AND ENROLLMENT

Name	* No. of Classrooms	Average Pupils Per Classroom	Enrollment 1970	Suggested Capacity	Grades Assigned 1970
Plummer	12	26.75	320	300	1-6
McGrade	12	25.58	307	300	1-6
Central Complex	26	19.04	495	650	1-3
Asa Wood	24	24.83	596	625	4-6
Libby Jr. High	40	20.60	824	1,000	7-9
Libby Sr. High	34	20.38	693	840	10-12

* Rooms specifically designed for general classroom or kindergarten use

CHARACTERISTICS OF SCHOOL FACILITIES

Name	Year Built	Year of Last Addition	Total Building Floor Space*	Site Size**	Suggested Minimum Site Size**
Plummer	1960	1967	22,426	23.55	7-8
McGrade	1960	1967	22,426	11.60	7-8
Central Complex	Before 1940	1949	54,380	7.00	7-8
Asa Wood	1953	1967	45,092	9.45	7-8
Libby Jr. High	1969	--	105,335	35.00	18-20
Libby Sr. High	1964	1967	53,700	22.06	32-34

* Square Footage
** Acres

and deter this street from becoming a major collector for areas south of the school. Increased traffic on Indian Head could create safety hazards for children, as well as destroy the development of an integrated residential neighborhood around Plummer School. Students living north of Highway 2 face a serious traffic problem getting across this arterial on their way to school. Means such as traffic control devices and restrained residential development north of Highway 2 can help rectify this situation.

McGrade Elementary School was designed to the same specifications as Plummer School and constructed simultaneously with the Plummer School. The site occupied by McGrade School consists of 23.55 acres, twice the area of the site for Plummer and well above average site size. This site should be adequate for any additions to the school in the foreseeable future. McGrade School is located about 4 miles south of Libby and approximately two blocks east of Highway 2. McGrade School serves the children of families living south of Libby and in the White Haven area. As mentioned under land use, the area south of Libby and including White Haven is expected to undergo the most severe population decrease of any area around Libby as dam construction declines. This population movement might be used as momentum for regrouping the present arrangement of development into a more integrated neighborhood around McGrade School. As residences are located west of Highway 2, a safety hazard is created for children going to school. Developing a new neighborhood around the school may reduce the number of children crossing the highway as well as counteract the adverse effects of an outflux of population.

Central Complex is located near the center of Libby on Lincoln Boulevard, one block north of Highway 2. This complex consists of Lincoln Elementary School, Central Elementary School, and a gymnasium. Lincoln Elementary formerly housed the high school, but now houses grades 1-3 and serves as the District

Administration Building. Central and Lincoln are both brick buildings in relatively good condition. The Central Complex occupies 7.0 acres of land, a site equal in area to the recommended minimum, but well below the average. When it is considered that Central houses more students than either Plummer or McGrade, the site area appears deficient in comparison. The location of the site appears adequate to serve the central city area of Libby and the area to the south. The traffic along Highway 2 is a safety hazard for children living south of the school, while Mineral Avenue and Highway 37 create crossing hazards for children west of the school. The placement of an elementary school in a downtown area generally faces many problems with regard to the child's safety and supervision. Though the present site is a good location, future changes in traffic volumes, the central shopping area along Mineral, and changes in population distribution may in time deteriorate the adequacy of this location for an elementary school site.

Asa Wood School is a block stucco structure built in 1953 and added to in 1956, 1960, and 1967. The building design is modern with adequate provisions for lighting, ventilation, and parking. Asa Wood once served as the junior high school, but now houses all children in grades 4-6 in the city. The school has provisions for physical education and music and is headquarters for the District's speech and hearing clinic and the reading specialist. The school is located at the west end of Lincoln Boulevard on the western edge of the city. The location is very good, being located off the major arterials, yet near the heart of downtown. Students to the south are, again, subjected to crossing Highway 2 while some students living on the east side of Highway 37 must cross that arterial to reach the school. Children living north of Asa Wood have safe and adequate access. Asa Wood occupies a 9.45 acre site, which is above the recommended minimum site area, but below the national average area of 12-14 acres. Vacant land west of the school is available should future expansion be necessary.

Libby Junior High School, which was jointly financed by the taxpayers of District 4 and the Army Corps of Engineers, was completed in 1969. The facility is of brick, block, and wood construction, with structural provisions for expansion. A modern "pod" arrangement of six interconnecting pods with movable classroom walls was utilized in the design of the structure. This design scheme facilitates team teaching and allows for the grouping of subjects into concentrated areas. The school has facilities for laboratories, industrial arts, study areas, and student commons. In addition, a separate building is provided for gymnasium, band, and music activities. Site area for junior high is 35.0 acres, of which 18 acres are occupied under a National Forest special use permit. This area is well above the recommended minimum and above the national average of 24-26 acres. The location of the school is excellent, as it is near both the major concentration of present population and the areas of expected future development. Steps should be taken to prevent excessive traffic and noise from developing on streets adjacent to this site. The pleasant location and handsome architecture of the school are conducive to the learning experience and are truly attributes to the city. It is important to maintain the aesthetic and physical qualities of this new facility. City guidance and control of developments affecting this area should be exercised.

Libby Senior High is a modern wood and block structure built in 1964, and added to in 1967. The facility has 34 classrooms with additional provisions for band, music, and gym activities. The design of the school allows adequate lighting and ventilation for proper study, while good layout provides open space for parking and recreation. The site area for the school is low, comprising only 22.06 acres of land, in comparison to the recommended minimum of 32-34 acres and the national average of 40-42 acres. Few high schools in Montana, however, approach this national average site area, with no apparent detriment to the educational level. Vacant land abutts the western side of the high school and may be available for acquisition. Although the present site area is below the recommended area, an investigation of actual student needs, educator's desires, and future enrollments should be the first step in any consideration of acquisition of additional land. Good access is available to the high school from Highway 2, and a county road is platted which will run directly between the junior high and the high school, when completed. The location of the school, approximately one mile northwest of the city, is near areas of expected future development.

Enrollment

School enrollment for the planning area has been tabulated in Table 41 for the past ten years and for the individual schools for the past five years. As shown in the table, enrollment has increased for nine of the past ten years. This increase was gradual and consistent until 1965, when a large influx of students from the families of Libby Dam workers occurred. In 1969, the increase was the lowest in the past ten years, while in 1970 there was an absolute decrease in school population. The decline in dam construction activity is largely responsible for the decreased enrollment. Enrollment figures for the individual schools are often a valuable aid in determining the geographic distribution of present and projected school populations. This distribution is especially important with regard to elementary school location, where is is desirable to provide safe and easy pedestrian access for children. Unfortunately, the enrollment of the individual schools has been affected by the addition of a new school, changes in grade levels taught, and temporary and permanent closings of facilities to such an extent that analysis by individual schools is impractical.

A pre-school census for October, 1971, showed 1,189 pre-schoolers, of which 275 were expected to enter first grade in 1971[1]. This number is slightly above the 266 figure for first grade enrollment in 1970, but significantly below

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[1] Superintendent of Schools, Libby Public Schools, Libby, Montana.

TABLE 41

PLANNING AREA SCHOOL ENROLLMENT
1960 - 1970

	1-6	7-9	10-12	Total	Change
1960-61	960	472	303	1,735	
1961-62	1,014	498	314	1,826	+ 91
1962-63	1,074	485	389	1,948	+122
1963-64	1,117	477	407	2,001	+ 53
1964-65	1,146	533	444	2,123	+122
1965-66	1,217	560	430	2,207	+ 84
1966-67	1,427	652	501	2,580	+373
1967-68	1,304	762	645	3,111	+531
1968-69	1,821	855	683	3,359	+248
1969-70	1,757	903	684	3,344	+ 15
1970-71	1,720	826	693	3,239	-105

INDIVIDUAL SCHOOL ENROLLMENT

	1966-67	1967-68	1968-69	1969-70	1970-71
Plummer	157	350	369	306	321
McGrade	170	348	347	288	307
Central Complex	1,100	1,268	1,106	541	495
Asa Wood	652	645	855	621	596
Libby Jr. High	-----	-----	-----	903	826
Libby Sr. High	501	-----	683	684	693

the 366 and 313 figures for 1968 and 1969, respectively.

School population distribution is highly dispersed which presents problems with school location, espeically for elementary schools. This dispersion creates a problem for the school district because it is obligated to provide transportation for pupils living three miles or more from school. Thirteen buses have been used to provide such transportation, as well as the provision of payments to students to find their own transportation when they were outside the limits of the bus routes.

Level of Education in the Libby Area

The Superintendent of Public Instruction has established a maximum teacher-pupil ratio of one teacher for every 25 students. If this ratio is exceeded, it is expected that the quality of education will decline. It is estimated from classroom and enrollment data that two schools exceed this ratio, Plummer and McGrade. These schools also appear to be operating over capacity. The decline in enrollment as dam construction declines may rapidly alter this situation.

The Libby School District has a good reputation for providing quality education. This is supported by test results from the Iowa Educational Development tests, in which Libby eleventh graders fared exceptionally well. Also, the dropout rate among college students from Libby due to failing grades is very low. The school system provides excellent instruction in reading and music and is well known throughout the state for both of these programs.

The general level of educational attainment for adults in the county, however, is below average. The average number of years of schooling completed is 10.7, the second lowest level in western Montana. The percentage of persons who have completed twelve years or more of education is the lowest of any county in Montana and consists of only 40.3 percent who have attained a high school or greater educational level. It is encouraging to note that the percentage of persons having less than five years of education is lower than in many counties. No adult enrollment was listed for the 1970-71 school term. Flathead Community College at Kalispell appears to be the closest location for adult programs, but the distance to the college makes it an impractical source for most residents of Libby. This lower than average educational level for the adult population, coupled with the limited availability of adult education classes is not conducive to creating or maintaining a healthy educational environment.

St. John's Lutheran School

St. John's Lutheran School provides an alternative and additional source of education for elementary students. As with the public facilities, this report does not evaluate the quality of education at St. John's, but simply inventories and compares the physical characteristics of the site and structures of the school.

St. John's School is located in the southern part of Libby in a quiet neighborhood adjacent to a park. The site is approximately two acres in area with educational building space amounting to 15,411 square feet. The school was originally constructed in 1955 and added to in 1957 and 1959. Six classrooms and a multi-purpose room are available. Six grades of instruction were offered, not including an additional kindergarten. Enrollment at the school was recorded at 72 pupils in September, 1969, and 114 in 1970, with the greatest enrollment increase in the kindergarten. Four teachers are employed by St. John's with one for the kindergarten and one each for grades 1-2, 3-4, and 5-6. Although the overall pupil per teacher ratio is above 1:25, it is below this figure when kindergarten enrollment is excluded. The overall site is not considered excessively small in light of the small enrollment. Additional area might be desirable, but the existence of an adjacent park expands the actual area of use. Overall, the physical facilities at St. John's compare favorably with those of the public institutions.

PARKS

Existing Parks

Park area in the Planning Area consists of 37.0 acres of land with ten (10) developed park units. All of this acreage, except for one-half acre, is located within the City of Libby. Two (2) additional park sites within the city have been dedicated but are not yet developed. The present park acreage is adequate for the city's population, but as stated in the Land Use Chapter, the lack of parks in the surrounding area places additional demands on the city parks.

Pioneer Park, located in the southern part of the city bounded on the north side by an extension of Balsam Street and on the east by Main Street, is classified as a community park. The site area is 9.40 acres, most of which is devoted to natural wooded acres. Facilities include toilet facilities, meeting hall, scattered tables, trash receptacles, and footpaths. Parking is limited to a couple turnouts which provide insufficient spaces. The park is used heavily for picnicking, with most use concentrated along the east side.

The Libby Volunteer Fire Department, L.V.F.D., Memorial Park is located between Highway #2 and the cemetary west of city center. This park, too, is primarily left in a natural, wooded state. Picnic sites are scattered amongst the trees with pathways leading into the woods. Facilities include 19 tables, 12 fireplaces, trash facilities, and a toilet complex. The site area is 3.36 acres which is relatively small for this type of natural park. However, as most of the adjacent land is yet undeveloped, the setting is maintained while park use extends onto some of the surrounding vacant area. This park is mainly used for picnics and open space use like walking and children's play.

Wollaston Field is located between the Kootenai River and the Burlington-Northern tracks. The park is a community project and provides a home park for the Little League teams of Libby. Facilities consist of two (2) fenced ball fields, bench type grandstands, concession stand, and broadcast booth. Some deterioration of the fences and facilities has occurred, but the ball diamonds are in good shape. The site area is approximately 4.7 acres in area. The location along the river is well chosen as the park provides a buffer between the vermoculite plant east of the ball fields, and the residences west of the park.

Whittley Park, located at Second and Louisiana, is the American Legion ballfield and the home for Libby Babe Ruth baseball. The field is in good shape, is fenced, and occupies approximately 2.4 acres. The location is advantageous; located along the railroad tracks it provides a buffer between the rest home and hospital and the tracks.

The swimming pool park, located between First and Second Streets west of Highway 2, is the primary community park for Libby. Facilities consist of a large swimming pool, a picnic area with four (4) tables and three (3) fireplaces, a tennis court, open space, and a ball park with a 500 seat capacity grandstand. The ball park has provisions to handle baseball, football, or track events with flood lighting for after dark activities. This park also serves as a neighborhood park for the surrounding residences. The site area is considered small for a community park, only 5.36 acres. Once again the location of the park is well chosen and provides a buffer between the railroad tracks and residential development south of Second Street.

A small "play lot" type park is located across from the Burlington-Northern depot. This park consists basically of landscaped open space and provides for visual relief and a break in the monotony of the surrounding area. The park is a valuable buffer between the downtown area and the tracks. The site is approximately 0.6 acres or about a half block in area and is used for lounging during work breaks by the workers in the area.

Situated around St. John's Lutheran Church and School are three (3) parks. One would be typed a neighborhood park with the other two (2) typed as "play lot" parks. The smallest park, less than a tenth acre, is located on the triangular point formed by Washington and Montana Avenues. The area basically provides a landscaped open space for an otherwise undevelopable parcel. The second "play lot" type park is located just south of St. John's Church, facing Montana Avenue. This is a beautifully landscaped parcel providing a separation between the church and residences. This park provides a valuable site for small neighborhood group "get togethers" and for informal meetings after church. The site area is about one-half acre. The neighborhood park for the area is located adjacent to the southwest corner of St. John's Lutheran School. The park site is about one (1) acre, of which approximately one-half of the area is located outside the city limits. The area is mostly used as a ball park and grassed play field.

In addition to the above listed public park areas recreational facilities maintained by other groups or agencies are readily available. A local racquet and swim club offers an indoor swimming pool and excellent tennis courts. The Cabinet View Gold Course and Country Club, started in 1957, provides a nine (9) hole golf course, which is open to the public, with an adjacent cafe and locker room.

Two (2) undeveloped park sites have been identified in the Planning Area, both of which are within the city. Highwood Park located adjacent to Cabinet View Subdivision is a grassy knoll overlooking the subdivision, 1.38 acres in size. Access to the park has been reserved, but not developed. Some use of the area by motorcyclists has been observed. Such use should be investigated to insure that the natural amenities of the area are not being destroyed or abused. The second undeveloped park site is a narrow strip along both sides of Flower Creek, extending from the end of Oak Street to Chapman Homesites consisting of approximately two (2) acres with reserved access along Flower Street. Additional city owned land is available west of this site for further expansion. Another area with prime park potential is a large city-owned parcel located north of the city, which abutts and overlooks the Kootenai.

Observations

1. The present park sites are adequate for the population.
2. A lack of park development exists in the center of the city. The playgrounds at the Central School Complex, however, provide some playground area for children living in the central city.
3. Most parks are desirably located in that they provide needed buffer zones between non-conforming uses.
4. Playground apparatus and multi-purpose game areas for volleyball, horse shoes, handball, etc., are generally lacking.
5. County parks in the Planning Area are non-existent, creating an immediate need for park development and planning by the county.
6. A centralized record of dedicated park lands from land subdivisions is needed.

CULTURAL FACILITIES

Library

The public library has traditionally provided a means for self-improvement and for furthering education and public awareness. In the Libby area where adult education in the school system has been limited, the library takes on additional importance. Libraries are rapidly becoming an important source of information and are being challenged to become centers for the dissemination of technical data. To carry out this function new forms of communication, such as audio tapes, films, and micro-film are being utilized.

The Lincoln County Free Library was created in 1920 with a 2,000 volume collection donated to the county by the Libby Women's Club. Since that time the library has grown to a three (3) branch system with 47,933 volumes. The center for the County Library is located at Libby in the John F. Kennedy Memorial. This building was constructed in 1964 and has 7,760 square feet of floor space on two (2) levels.

The V.S.C. (volume, seating, and circulation) formula was used to provide a base for analysis of library facility. This formula provides standards for evaluating the floor space, seating facilities, and the service rendered by a library. Table 42 compares the V.S.C. standards to the existing library operation. Calculations for the per capita figures in the table were prepared using both the city and county populations.

Table 42 shows that the number of books per capita, when figured for the county as a whole, is below standard. The 2.6 figure for the county describes more accurately the adequacy of the book supply than does the per capita city figure because, unlike floor space and seating statistics, books circulate freely throughout the county. The number of seats available in the John F. Kennedy building is adequate even though the county figure is below standard. Similarly, the floor space in the library is considered adequate. Both seating and floor space adequacy is based on the assumption that the actual service area of the Libby Library building is less than county wide. In analysing the circulation of volumes per capita a book stock to circulation ratio was used as well as the circulation figure for the county. An annual circulation of less than three (3) times the book stock is an indication that the library is not being fully utilized. The 2.5 to 1 book stock to circulation figure and the 6.6 volumes per capita circulation figure indicates a less than optimum use of the library. Table 43 shows that circulation has dropped nearly 30 percent in the past ten (10) years with a steady decline in circulation through the years. Television is probably responsible for a large measure of the decrease in the use of the library. The number of volumes per capita, the number of seats, and the amount of floor space for the library are deemed adequate especially in light of a possible population decline after completion of Libby Dam. A campaign to increase volume circulation and to stimulate greater use of the library would be beneficial to the community.

In addition to acting as a warehouse for books and as an information

TABLE 42

V.S.C. STANDARDS AND EXISTING CONDITIONS

	POPULATION	VOLUMES		SEATS		CIRCULATION		FLOOR AREA	
		No.	Books Per Capita		Chairs Per 1,000	No.	Volumes Per Capita	Square Feet	Sq. ft. Per Capita
V.S.C. Formula	-	-	3.5 - 5	-	10	-	10	-	0.7-0.
Lincoln County Free Library (Libby Branch)									
Lincoln County Service Area	18,063	47,783	2.6	88	4.9	118,234	6.6	7,760	0.4
Libby Service Area	9,986	47,783	4.8	88	8.8	118,234	11.8	7,760	0.8

TABLE 43

CIRCULATION

Year	Total Books	Total Circulation
1959-1960	31,879	145,303
1960-1961	33,199	148,548
1961-1962	34,793	146,184
1962-1963	35,388	136,893
1963-1964	35,713	135,339
1964-1965	38,475	134,646
1965-1966	42,404	131,066
1966-1967	44,158	115,485
1967-1968	45,528	117,580
1968-1969	47,933	117,081
1969-1970	47,783	118,234

center, the Libby Library acts as a cultural center for the community. Cultural activities include a continuing "Artist of the Month" exhibit, a pre-school storyhour for young children, a Great Books Discussion group for adults, and a reading program for elementary school children. The Lincoln County Library is also the center for the Northwestern Federation of Libraries. Special features at the library include a xerox reader for use with micro-film; a northwest history collection; a bookmobile service.

Other library facilities in the Planning Area, besides the Libby branch of the Lincoln County Library, include a central library for each of the three (3) school levels; elementary, junior high, and high school; with a full-time librarian in charge of each section.

Auditorium

Libby does not have a specific and single purpose civic auditorium. Like most small towns, Libby has relied on its school facilities to provide a town meeting hall and public meeting rooms. The Memorial Gym, located in the Central School Complex, generally serves as the town hall and is available for civic events. The Memorial Gym has available an auditorium, a stage, and 13,813 square feet of usable floor space. The lack of a civic center does not appear detrimental as community concerts were the only community cultural events observed. There is, however, an obvious shortage of youth facilities, with a teen center noticeably absent.

Churches

The Libby area is well represented by the various denominations and well supplied with churches. The following is a list of the 19 churches and denominations located throughout the jurisdictional area.

- Assembly of God
- Christian Church
- Christian Science Society
- Church of Christ
- Church of God
- Church of Jesus Christ of Latter Day Saints
- Church of the Nazarene

Faith Bible Church (Indep. Fundamental)
First Baptist (G.A.R.B.C.)
First Lutheran (The A.L.C.)
First Methodist
First United Presbyterian
Jehovah Witnesses
Kootenai Vista Baptist (Bap. Gen. Conf.)
Libby Baptist (S.B.C.)
Seventh Day Adventist
St. John's Lutheran (Missouri Synod)
St. Joseph's Catholic
St. Luke's Episcopal

HEALTH FACILITIES

Hospital

The community hospital for Libby, St. John's Lutheran Hospital Inc., was built in 1952 and remodeled in 1965-67. St. John's is the only hospital in Lincoln County and provides service to all of the county, with the exception that some Eureka and Fortine residents may use facilities at White Fish. The hospital located in the northeast corner of Libby between Utah and Louisiana Avenues and Third and Fourth Streets, is easily accessible with only a minimal traffic congestion occurring around the facility. The surrounding area is occupied mostly by single family residences, with the Libby Convalescent Center located directly across Third Street from the hospital. The 2.4 acre site occupied by the hospital is attractively landscaped and is large enough to provide room for limited future expansion. Off-street parking is provided, however a need for additional spaces was observed.

The hospital houses 34 beds and is staffed by 40 full-time and 25 part-time staff members. Present bed needs are estimated at 31 beds by the State Department of Health and with a present average occupancy rate of 53 percent.[1] St. John's exceeds the recommended standards by three (3) beds but some modernization of the facility is recommended by the Department of Health.[1] The present inventory also indicates that an employee park or similar facility near the hospital is lacking.

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[1] Montana State Plan, Hospital and Medical Facilities Construction. Division of Hospitals and Medical Facilities, Montana State Department of Health, Helena, Montana, 1969-70 Revision

As of December 31, 1970, St. John's Hospital was valued at $802,034.00, with an additional $30,261.00 of attached equity and $144,667.00 in movable equity. There are presently a total of 18,184 square feet of floor space in the hospital.

Libby Convalescent Center

Libby Convalescent Center is a newly constructed, modern 60-bed facility. The center serves the entire county and is staffed by 40 full-time employees. The privately owned facility is located directly north of St. John's Hospital on a 2.4 acre site which provides adequate room for parking and future expansion.

The center is licensed to operate 60 L.T.C. (long term care) beds. The State Department of Health has estimated a need for 72 L.T.C. beds in the county, with additional beds needed to provide for "personal care" and "boarding home" patients. The provision of personal care and boarding home units would free beds presently used for these purposes in the hospital and in the convalescent center.

Libby Nursing Home

Libby Nursing Home is licensed and operates ten (10) L.T.C. beds. The facility was originally built as a two-story residence in 1914 before its conversion to the present use. The nursing home is located on Main Avenue just south of Highway 2 in a residential neighborhood. The building is in need of major repairs and is of non-fire resistive construction. Fire sprinkling equipment is available and a new oil heating system was installed in 1968. Site area for the home consists of five (5) lots with a total area of 0.36 acres. No room is available for expansion or for the provision of off-street parking.

PUBLIC UTILITIES

Water Services & Consumption

The Libby water system is a private utility, owned and operated by the Pacific Power & Light Company. In addition to providing water service to all residents within the corporate limits of Libby, Pacific Power & Light provides water services to numerous residential and industrial consumers outside the Libby city limits. Residential service areas outside Libby include Cabinet Heights Subdivision, Cabinet View Subdivision, Skidale Gardens, Glenwood Park, and Woodway Park. The principle industrial user is St. Regis Paper Company.

The following table gives a breakdown of the number and classification of consumers served by the Libby (P. P. & L.) water system as of June 30, 1970:[1]

Classification	Metered	Unmetered	Total
Residences	357	1,139	1,496
Stores	134	19	153
Schools	12	-----	12
Hospitals	2	-----	2
Industrial & Other	34	6	40
TOTALS	539	1,164	1,703

The residential users outside the city limits are on metered services and pay for water on a graduated scale, while those inside are unmetered and pay a flat rate of $4.00 per month, plus a seasonal irrigation charge based on lot size. Metered customers on 3/4" services pay $5.00 per month for the first 5,000 gallons, plus $0.25 in summer months and $0.60 in winter months for each additional 1,000 gallons per month.[2]

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[1] Auditor's Report to Montana R/R and Public Services Commission.

[2] Per Mr. S. A. Collins, Pacific Power & Light Company.

The total amount of water supplied to all customers by the Libby water system during the fiscal year ending June 30, 1970, was 510.3 million gallons[1] (M.G.) or an average of 1.40 M.G. per day. Assuming that 1,139 unmetered residential services represent a population of 3,286[2] within the city limits of Libby, a proportionate estimate of 4,316 people are calculated to be serviced by inclusion of outlying metered customers. This prorates to an average consumption of 324 gallons per capita day (gpcd), including combined domestic and industrial uses. The maximum amount of water supplied in any one day was 6.71 M.G., which is equivalent to 1,555 gpcd. This would appear to be an unusually high consumption rate and is probably attributable to flat rate charging, excessive lawn irrigation, and a high industrial use.

Water Supply & Storage

The source of supply for Libby's water is Flower Creek, which originates in the mountains south of Libby. Water is diverted from Flower Creek, about two miles south of Libby, by a dam impounding five million gallons of water. An upper reservoir of 75 M.G. capacity[3] is used to store water to supplement flow when the natural creek flow is not adequate to maintain the level in the lower reservoir.

From the lower Flower Creek reservoir, the water is transmitted through two wood stave pipelines of 16 inch and 20 inch diameter. These transmission mains carry the water for about 3,000 feet to the junction with a single 20 inch asbestos cement pipeline installed in recent years to replace original

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1. Auditor's Report to Montana R/R & Public Services Commission (1969-1970).

2. U. S. Bureau of Census, 1970 Population - Libby.

3. Per Mr. S. A. Collins, Pacific Power & Light Company.

wooden mains. This transmission pipeline extends to a pressure regulating station adjacent to the south city limits of Libby. Here the line pressure is reduced from about 135 psi. in the transmission pipeline to 35 psi. in mains feeding the distribution system.[1] This provides customers very satisfactory service pressures in the range of 60 to 65 psi.[2] for the greatest part of the system.

A study[3] conducted in 1966 reported an adequate ten year water supply for Libby from present sources. This study was conducted to examine the impact effect of the Libby Dam project.

Water Distribution System

The Libby water distribution system is shown on the following map.[4] The system consists essentially of two primary loops with a common ten inch pipeline down the center on Main Avenue. A ten inch main extends to the west on Balsam to encircle the area between Glenwood Park and Flower Creek and returns again on Dome Mountain Road. A second ten inch main extends to the east from the pressure regulating station on Cedar Street and then heads north following U. S. Highway 2 to Spruce Street. This partially encloses the city's south side with a ten inch distribution main. A twelve inch pipeline extends from the terminous of the 20 inch transmission main east to the J. Neil's Lumber Company, with an additional six inch line extending from the distribution system on Fifth Street to the plant.

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1. Per Mr. S. A. Collins, Pacific Power & Light.

2. Auditor's Report to Montana R/R & Public Services Commission (1969-1970).

3. Report on Water Supply and Distribution for Libby, Montana for Pacific Power & Light Company, 1966, by Stevens, Thompson, Runyan, and Ries, Inc.

4. Compiled from map furnished by Pacific Power & Light Co., Rev. December, 1969.

Much of the original distribution system consisted of dipped and wrapped steel pipes of four inch and smaller diameter. Cast iron water main was used more recently for a period of about four years while new replacements and extensions are being made with asbestos cement pipe. Although a considerable length of four inch and smaller main is still in use in the present distribution system, Pacific Power & Light Company is engaged in a program of replacement with five inch main or larger and elimination of dead ending in the system.[1]

Water Treatment

Disinfection by chlorination is the only treatment used on the Flower Creek water supplied by the Pacific Power & Light Company water system. The chlorination station is located on the 20 inch transmission main about one mile south of the Libby city limits.

Fire Protection

Based on fire flow tests conducted by the Montana Fire Rating Bureau in 1963, Fire Department, fire alarm system, and other factors, the City of Libby is given a Class "6" fire rating.

The Fire Department is a volunteer department of 28 men. Fire fighting equipment includes a 750 gallon per minute (gpm) pumper, a 500 gpm pumper, a 1,200 gallon tank truck, and two utility vehicles.[2] Plans are in process for getting three new pumpers with one rated for flows of 1,000 to 1,250 gpm. By agreement with St. Regis Paper Company, two extra pumpers and 40 extra men can presently be called in for emergency situations.[2] Water pressures at hydrants in the distribution system can also be increased by Pacific Power & Light through adjustments at the pressure regulating station.

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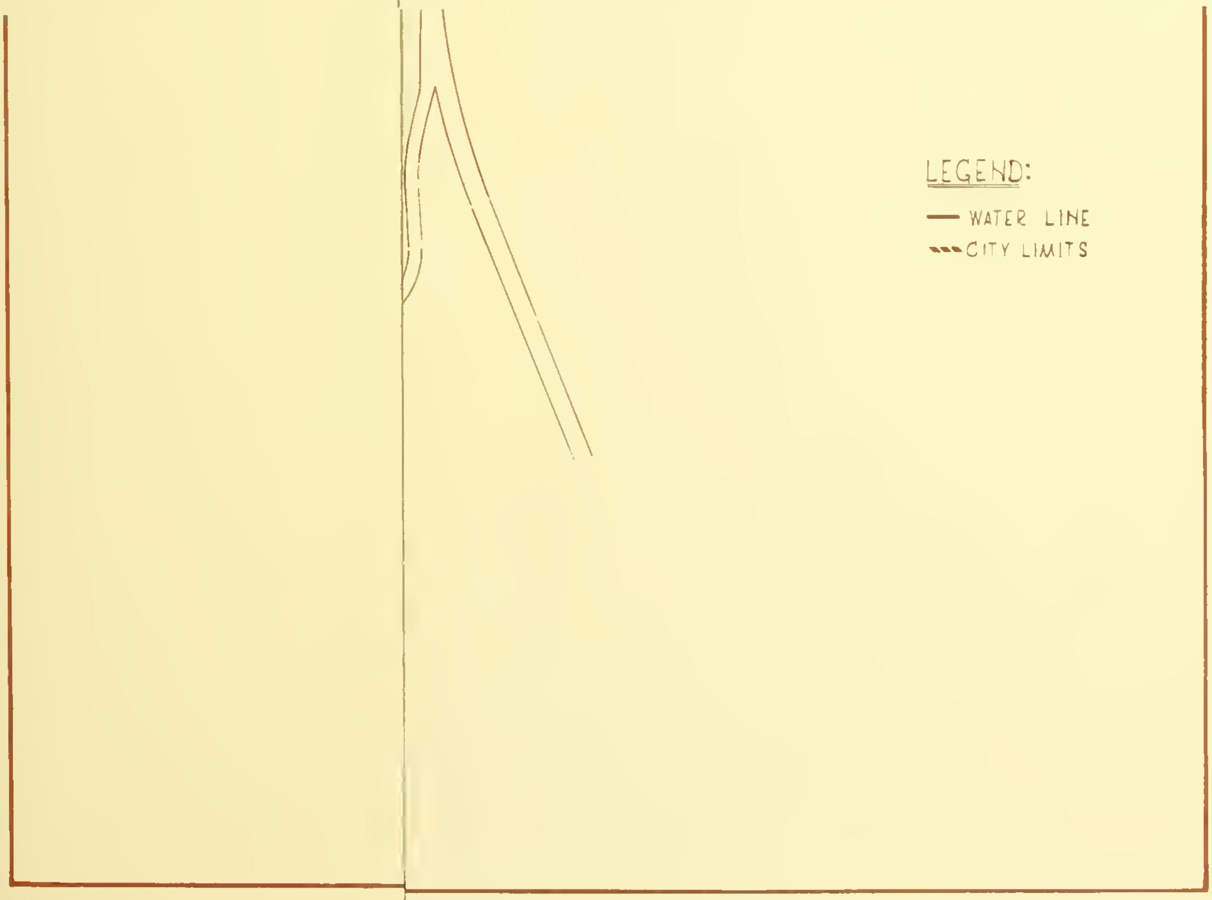
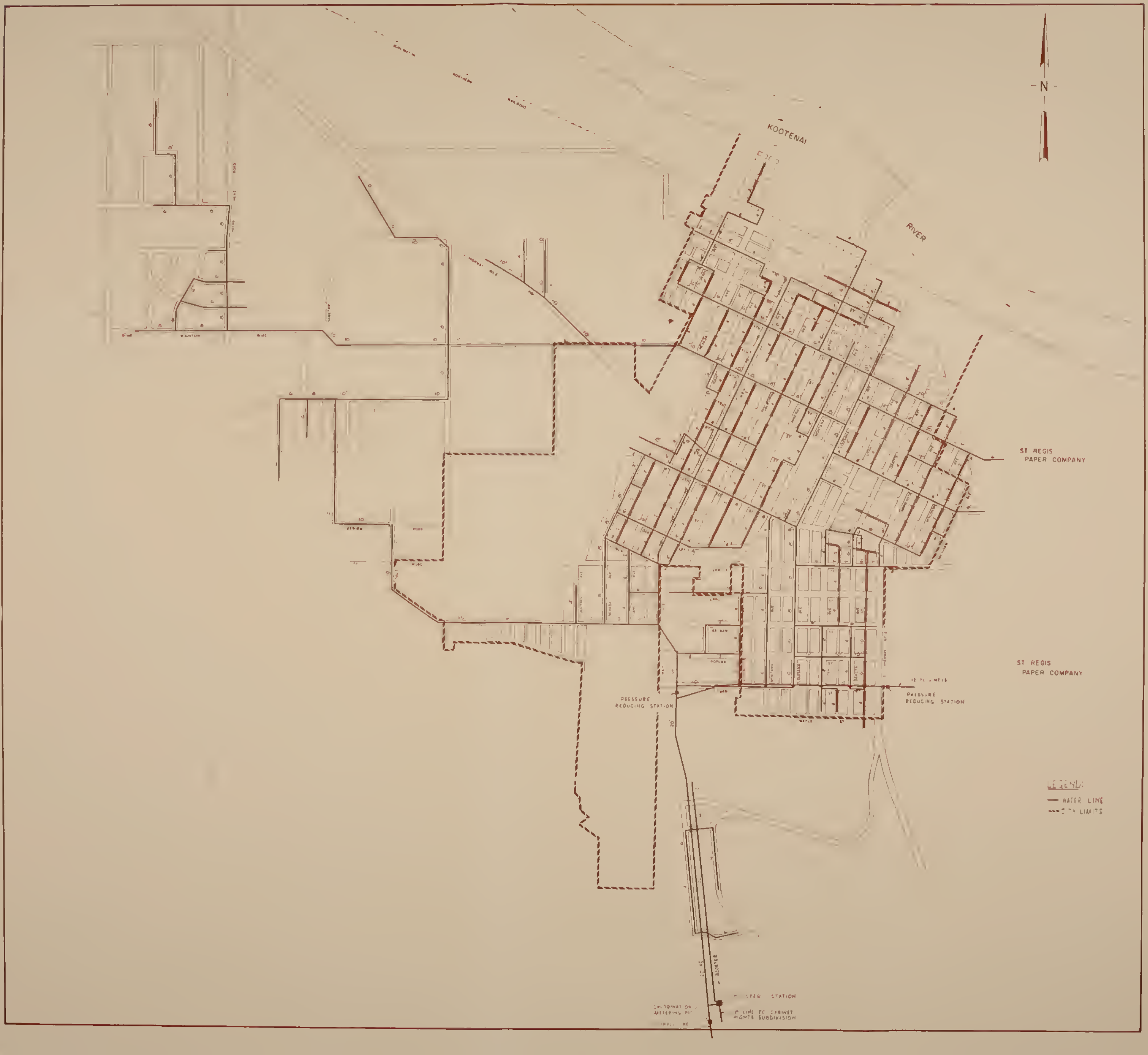
1. Per Mr. S. A. Collins, Pacific Power & Light Company.

2. Per Mr. Doerington, Libby Fire Chief.


LEGEND:
— WATER LINE
--- CITY LIMITS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BURLINGTON NORTHERN RAILROAD
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POPLAR
MAPLE ST
BOOSTER
BOOSTER STATION
CHLORINATION
METERING PIT
SUPPLY LINE
8" LINE TO CABINET
HIGHTS SUBDIVISION
LEGEND:
WATER LINE
CITY LIMITS

Sanitary Sewerage Facilities

There are two joint sanitary sewage systems within the jurisdictional area. They are the Libby sewage system, owned and operated by the City of Libby, and the St. Regis sewage system, owned and used by St. Regis Paper Company.

Libby Sewage System

The Libby sewer system, shown in the following map[1], serves only areas inside the corporate boundary of the city. However, there is still a large area within the city which is not serviced by the system and a number of septic tanks are still in use.[2] The trunk line on the west side was installed to serve the new junior high school in southwest Libby. The residences in the area are not connected to this trunk line, but it is sufficiently sized to handle considerably more contribution. All areas within the present corporate boundaries of Libby could by gravity means be serviced by the present sewage collection system.

The greatest deficiency in the existing collection system is a high rate of ground water infiltration, as evidenced by considerably higher flows during the months of June to August. Normal wintertime flow to the sewage treatment plant is in the neighborhood of 600,000 gallons per day, while flows of over 1,000,000 gallons are not uncommon during spring and summer months.[2] Also contributing to peak flow conditions is storm drainage introduced by a combined storm and sanitary sewer on Mineral Avenue.[2]

There are two main outfalls to the sewage treatment plant; one of 24 inch diameter coming from the east, serving the greatest part of Libby, and the other of 18 inch diameter coming from the west, presently serving only the new junior high school. These outfalls are adequate for present use and are capable

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1. Compiled from City of Libby records.

2. Mr. Mel Syth, City of Libby Superintendent.

of handling increases, especially if infiltration and storm drainage contribution is eliminated.

The Libby sewage treatment plant is a primary plant which went into operation in 1967 and is being financed by a $3.00 per month use charge.[1] It is rated as a 1.0 M.G.D. (million gallons per day) plant, adequate to serve 6,000 people.[2] However, the pump station at the plant will handle 2.0 M.G.D. with both pumps operating. The clarifier was calculated to be good for 6,000 people, while the digester is good for 8,000 people. Disregarding the high flow contribution by infiltration, this should be more than adequate to serve an estimated present contributing population of 4,000 (includes a 20 percent allowance for transient workers).

An item which should be given serious consideration in the existing sewage system is a grit condition introduced by interconnections to storm drain inlets. This grit causes rapid wear on mechanical equipment at the plant (especially pumps) and subsequently poor operation and high maintenance costs. Elimination of grit by installing grit removal equipment at the plant or by elimination of combined sewers should be investigated.

The present degree of treatment by the Libby sewage treatment could not be reported because no B.O.D. (biological oxygen demand) tests have been performed on the treated effluent.

St. Regis Sewage System

The St. Regis Paper Company operates a secondary treatment plant to treat their sanitary wastes. The plant utilizes a trickling filter for secondary treatment and normally processes flows of about 80,000 gpd.[3] The plant was

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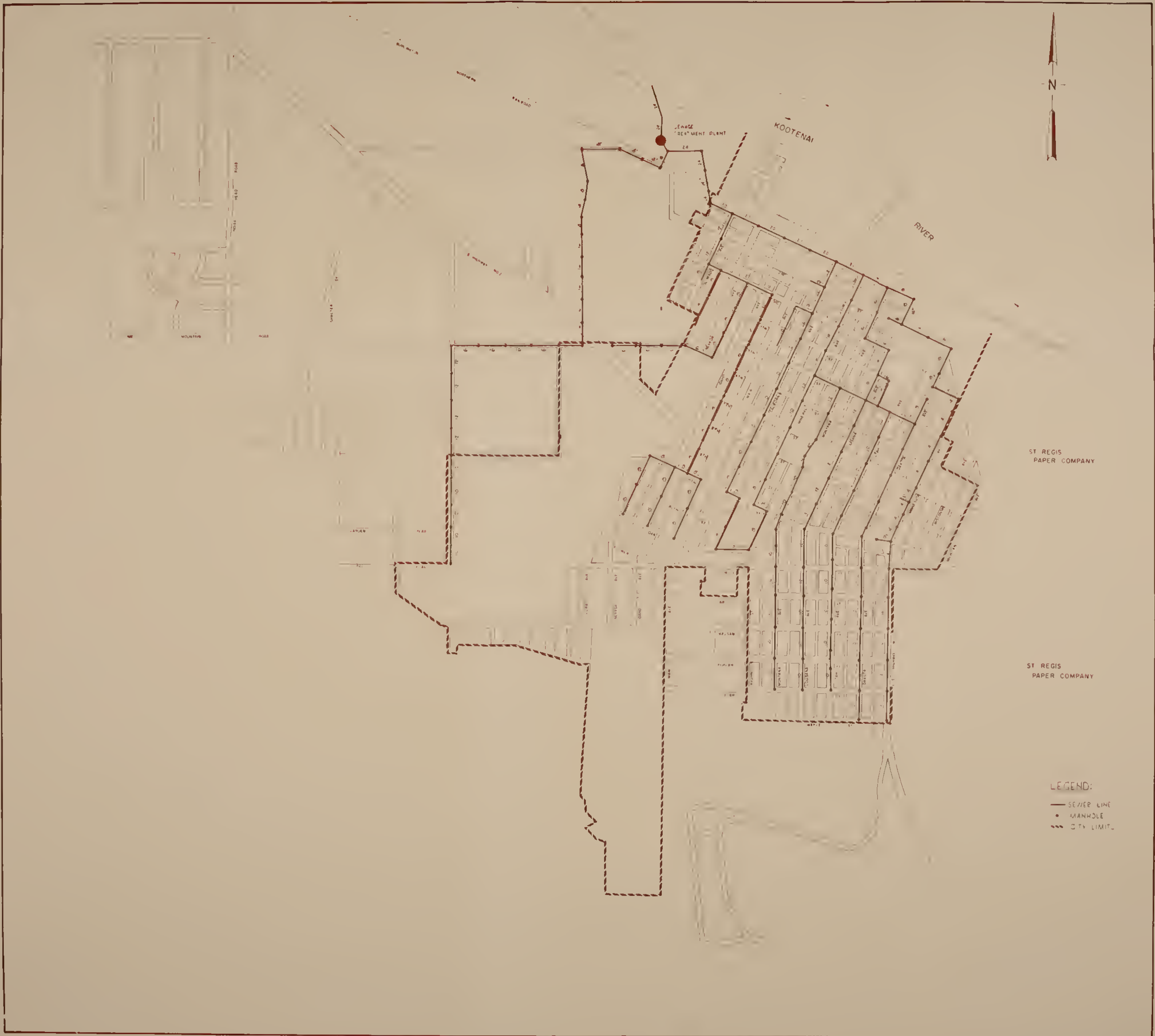
1. Mr. Mel Syth, City of Libby Superintendent.

2. Mr. Don Willems, State of Montana Department of Health.

3. Mr. Bob Burdick, St. Regis Paper Company.

LEGEND:
SEWER LINE
MANHOLE
CITY LIMITS


N
SEWAGE TREATMENT PLANT
24
KOOTENAI
RIVER
ST REGIS PAPER COMPANY
ST REGIS PAPER COMPANY
LEGEND:
SEWER LINE
MANHOLE
CITY LIMITS

designed for a population of 800[1] and can pass 100,000 gpd of flow.

Tests conducted regularly at the plant show a high quality treatment of about 95 percent removal, with effluent running at 15 ppm[2] (parts per million) of B.O.D. (biological oxygen demand) and 19 ppm[2] of S.S. (suspended solids). Effluent receives a final disinfection by post chlorination. The plant is adequate for the present and for future expansion.

Ponds are used for industrial wastes and there are bark and sawdust removal units at the stud mill and plywood pond.

Problem Areas

Much of the developed areas south and west of the city limits of Libby are as yet unsewered. Use of septic tanks and high ground water has created a situation which is a health hazard.[1] Several years ago the result was a hepatitus epidemic with 100 cases being reported in Lincoln County.[3]

Dye tests, in one case, showed positive proof that septic tank effluent was being picked up in a well supply.[3]

A letter from the State Department of Health stated, "Any well construction which does not positively exclude all surface and subsurface contamination must be considered as dangerous to health."[3]

Storm Drainage Facilities

The natural drainage pattern for Libby and surrounding area is generally toward the north. Higher relief in the vicinity of Montana Avenue forms an east-west separation for runoff. To the east of this divide drainage water tends to flow in a diagonal course across town toward the Kootenai River. West of Montana Avenue drainage is generally to the northwest into Flower Creek

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1. Mr. Don Willems, State of Montana Department of Health.

2. Mr. Bob Burdick, St. Regis Paper Company.

3. Dr. Cairns, Lincoln County Health Officer.

which flows north into the Kootenai.

Present storm drainage facilities in Libby are limited. The primary elements are of recent construction and were installed by the Montana Highway Commission. These facilities were all designed for storms of five year frequency[1] and include (a) Dakota Avenue storm drain system, (b) California Street storm drain, and (c) Highway 2 West storm drains. Features of these systems are described below:

(A) Dakota Avenue Storm Drain System

This system consists of a storm drain on Ninth Street, from Montana to Dakota, and another beginning on Highway 2 about 1,000 feet south of Maple Street extending to Dakota Avenue. These sewers collect runoff along Highway 2, intercepting some of the drainage from south Libby. Drainage collected is carried to Dakota Avenue, where a 33 inch diameter outfall on Dakota discharges to the Kootenai River.[2]

The City of Libby participated in the cost of the Dakota Avenue outfall, which is designed for future extensions to serve the area from Mineral to Minnesota between Ninth and Third Streets.[1]

(B) California Avenue Storm Drain

The California Avenue (U. S. 37) storm drain was constructed in 1970, along with curb and gutter improvements. This drain collects contribution from present curb and gutter drainage only and is not designed for any lateral extensions. This storm drain has a 24 inch outfall pipe terminating at a culvert under the Burlington-Northern Railroad by the Highway 37 overpass.[1]

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1. Mr. Don Gruel, Hydraulics Engineer, Montana Highway Commission.

2. Construction Plans, Montana Highway Commission.

(C) U.S. Highway 2 West Storm Drain

One storm drain begins at a catch basin at Main Street and collects storm drainage at intersections to the west along Highway 2 intercepting some runoff from the south. This drain outfalls (21 inch pipe)[1] into Flower Creek.

A second storm drain begins about 500 feet west of Flower Creek and collects storm water on the highway for about a half mile further to the west, finally discharging as a 24 inch pipe into a drainage ditch near the Kwiki Car Wash.[1]

While the existing storm drains do serve several streets and intercept runoff contributed from south Libby, there is presently little provision for collection or disposition of drainage originating north of Highway 2 or for surface runoff through residential areas in south Libby.

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1. Construction Plans, Montana Highway Commission.

CHAPTER V

TRANSPORTATION

Transportation facilities in the Libby area have been major determinants of the past development and use of land. The interaction between the transportation system and future land uses can be expected to continue.

The street system represents the largest investment of public funds in the Planning Area. For this reason it is important that the major street plan be designed to obtain the maximum use of existing streets to meet future travel demands.

MAJOR STREET SYSTEM

Each street in Libby should have a particular function within the overall street system. The first step in the analysis of the adequacy of the existing street system is to assign each street to its functional category. It should be emphasized that the functional classification of a street on the Major Street System map does not necessarily mean that it is presently fulfilling its assigned function, the purpose of classifying the streets is to set goals and priorities to improve each street to the standards of its particular function. The streets in Libby have been broken down into three functional classifications. These are defined as follows:

Major Arterials - The function of these facilities is to provide for the rapid movement of large volumes of traffic through the area. Access to adjacent property should be kept to a minimum to avoid conflict with the traffic carrying function.

Major arterials within the Planning Area are U. S. Highway 2 and State Highway 37.

Minor Arterials - These streets and highways are usually continuous, providing through traffic movement with particular areas in the community. Minor arterials usually form loops off of the major arterial system.

An example of a minor arterial in the Planning Area is Poplar Street which forms the southern portion of a minor arterial loop which begins on the south side of Libby at its intersection with U. S. Highway 2, crosses Flower Creek and ends at U. S. Highway 2 west of Libby.

Collectors - These streets function as the name implies, collecting traffic from local access streets and distributing it onto minor or major arterials.

Mineral Avenue functions as a collector.

Local Access - The primary function of these facilities is that of providing direct access to abutting property. It is undesirable to have through traffic moving on these routes. All streets not classed as major arterials, minor arterials or collectors are local access streets.

The Major Street System map classifies each street in the system according to its function. These classifications correspond to those determined by the National Functional Classification and Needs Study (1970 to 1990) which was conducted in 1970 by the Montana State Highway Department.

Traffic Volumes

Estimated traffic volumes for 1970 and 1990 are shown for selected sections of the Major Street System. The 1971 volumes were estimated from Montana Highway Department traffic counts taken in 1969. The 1990 traffic volumes are estimates from the National Functional Classification and Needs Study (1970-1990). These volumes represent average daily traffic (ADT) or the average volume for the entire year.

The highest 1971 ADT in the Planning Area occurs on U. S. Highway 2 between California and Mineral Avenues. The 1971 volume of 9,140 vehicles per day is expected to increase to 13,550 vehicles per day by 1990. As would be expected the highest volumes are found on the major arterials within the system.

The traffic volume on State Highway 37 is expected to show an increase of only 180 vehicles per day over the 20-year period. This is a result of the completion of Libby Dam. Construction worker traffic will be replaced by recreational traffic by 1990. Traffic volumes during the peak recreational season will be substantially higher than the average daily volume shown.

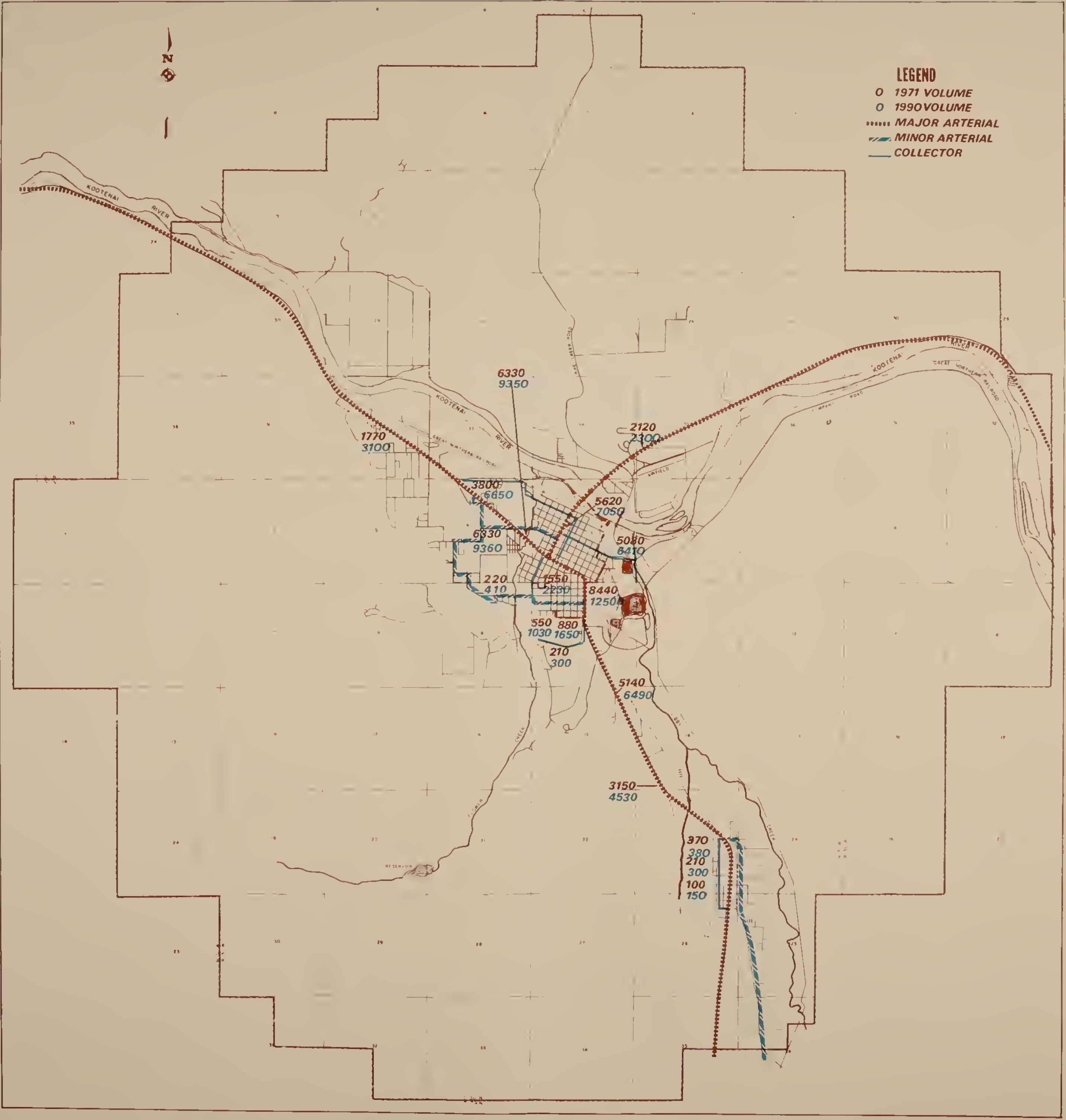
The highest traffic volume on a minor arterial (800 vehicles per day) occurs on Poplar Street between U. S. Highway 2 and Washington Avenue. The estimated 1990 traffic volume for this section is 1,650 vehicles per day.

Traffic counts on the collector street system are lacking. The highest volumes of traffic probably occur on Mineral Avenue in the Central Business District. Supplemental counts will be taken during the second phase of this project.

The projected 1990 volumes have been based on assumed future growth areas. At the time these estimates were made, Libby did not have a Comprehensive Plan. With the development of a Comprehensive Plan during the second phase of this project, the major street system may require revision to fit the final land use plan that will be adopted. Revised 1990 traffic volumes will be estimated based on the future land use plan.

Street Capacities

The capability of the existing street system to handle present and future traffic volumes can be evaluated by relating traffic volumes to the available street capacity. Street capacity is determined by the physical characteristics of the street. Width, cross-section design, interesection design and intersection spacing are the most important and permanent factors. Capacity is also affected by such variables as signal timing and spacing, turning movements, trucks, parking, bus stops, pedestrian volumes and adjacent land use. These factors may vary hourly during the day causing the capacity of the


N
LEGEND
O 1971 VOLUME
O 1990 VOLUME
MAJOR ARTERIAL
MINOR ARTERIAL
COLLECTOR
KOOTENAI RIVER
KOOTENAI RIVER
KOOTENAI RIVER
GREAT NORTHERN RAILROAD
1770
3100
6330
9350
2120
2300
3800
6650
5620
7050
6330
9360
5080
6410
220
410
1550
2230
8440
1250
550
1030
880
1650
210
300
5140
6490
3150
4530
370
380
210
300
100
150

street to vary significantly during peak and offpeak traffic movement. Since all of the factors which affect capacity cannot be estimated for the future, an approximate capacity must be used to evaluate the major street system. For planning purposes, street capacities are expressed in 24-hour terms.

Table 44 shows street capacities for each functional classification category.

TABLE 44

STREET CAPACITY

FACILITY	CAPACITY (Vehicles/day)
Major Arterial (4 lane, no parking)	12,800 - 16,500
Major Arterial (4 lane, curb parking)	10,100 - 13,100
Major Arterial (2 lanes, curb parking)	8,400 - 10,500
Minor Arterial (2 lanes, curb parking)	8,000 - 10,000
Collector (2 lanes, curb parking)	4,000 - 5,000

Source: 1965 Highway Capacity Manual

Table 45 compares the highest 1990 volumes on each component of the major street system with the capacity of the street section.

TABLE 45

VOLUME - CAPACITY COMPARISON AT CRITICAL SECTIONS

	1990 VOLUME (ADT)*	CAPACITY (ADT)	Volume/Capacity
Major Arterial			
U. S. Highway 2	13,550	13,100	1.03
Minor Arterial			
Poplar Street	1,650	10,000	0.16
Collector			
Mineral Avenue	4,000*	5,000	0.80

*estimated

Table 45 shows that the only section of the major street system that will be operating at capacity in 1990 is U. S. Highway 2 between California and

Mineral Avenues. In the past year the section of this street within the city limits has been reconstructed to urban arterial standards. The 1990 volume exceeds the capacity of the street by three percent (3%) assuming parking on both sides. By removing parking at the major intersections and providing a left turn bay the additional capacity required can be added.

Although Poplar Street and Mineral Avenue have adequate width and operating characteristics to meet future needs, the structural condition of these two facilities is inadequate. Poor drainage on both of these streets results in massive pavement breakup each spring. This is true of many of the local access streets such as Louisiana Avenue and Lincoln Boulevard. Due to lack of funds the city is able to carry out only routine maintenance and patching of the streets over which it has sole responsibility. The only permanent solution to the spring breakup problem is the construction of adequate drainage facilities and the reconstruction of the street surface with a pavement designed for the existing soil foundation conditions.

Traffic Control

Traffic congestion on the streets in the Central Business District can usually be traced to one or both of two major causes. The first is inadequate traffic control which causes inefficient use of the facility. Congestion due to this cause is often mistakenly assumed to be due to lack of capacity. By adoption of efficient traffic control measures the inherent capacity of the existing streets can be attained, often at little or no expense.

The second major cause of congestion is insufficient capacity. New construction is usually required to alleviate congestion due to this cause. This generally involves substantial expense.

The recent reconstruction of U. S. Highway 2 and State Highway 37 has upgraded the signals and signs controlling traffic on these two facilities.

The traffic control on Mineral Avenue is generally substandard. Traffic signals located on Mineral Avenue at Lincoln Boulevard and 5th Street are substandard in both size and location. The Uniform Manual for Traffic Control Devices requires that two (2) signal heads be visible to each approach. The use of both a signal and stop signs at the intersection of Mineral Avenue and Lincoln Boulevard causes a contradiction. Traffic on Lincoln Boulevard must observe a stop sign even though the signal indication is green. This situation should be corrected by removing the stop sign or the signal.

A particularly noticeable deficiency to the out-of-town visitor is the lack of stret name signs. The existing signs are in generally poor condition. The Junior Chamber of Commerce is presently investigating the possibility of a street signing program. The first priority of this program should be the signing of streets on the major street system.

Through Traffic Origin - Destination Study

In June, 1970 the Montana State Highway Department conducted an origin - destination survey in the Libby area. Interview stations were located on U. S. Highway 2 south of Libby in the vicinity of Whiskey Hill; on U. S. Highway 2 approximately two (2) miles west of the City Limits and on State Highway 37 approximately two and one-half (2-1/2) miles north of the City Limits. The drivers of outbound vehicles were interviewed to determine the point of origin, the location of the last stop made and the point of destination. The interviews were conducted for a 16-hour period and then expanded to a 24-hour total.

Tables 46, 47 and 48 summarize the major origin and destinations of traffic leaving the Libby area.

Traffic leaving the area on U. S. Highway 2 south is predominantly destined for the rural areas within thirty (30) miles of the city. These areas attracted 376 trips. Kalispell is the fourth largest trip attractor with 92 vehicle trips. There were also 92 vehicles passing through the area from Idaho to Kalispell. Glacier Park shows a fairly heavy trip attraction for vehicles coming into the state on Highway 2 with 81 vehicles giving an origin of Idaho and destination of Glacier Park.

419 vehicles travelling westbound on Highway 2 gave an origin of Libby and a destination of Troy. The second highest volume of trip-ends were from Libby to Idaho.

TABLE 46

PRIMARY DAILY ORIGINS AND DESTINATIONS OF TRAFFIC LEAVING THE LIBBY AREA ON U. S. HIGHWAY 2 SOUTH OF LIBBY
(Shows only Locations with 10 or more Trips)

Origin (From)	Destination (To)	Total Outbound Vehicles Per Day
Libby	0 - 5 miles south of Libby	169
Libby	6 - 10 miles south of Libby	113
Libby	Happy's Inn	104
Libby	Kalispell	92
Libby	11 - 20 miles south of Libby	62
Libby	Lincoln County rural areas	18
Libby	Glacier Park	11
Libby	Columbia Falls	10
Idaho	Kalispell	92
Idaho	Glacier Park	81

Total 24-hour volume - 990 vehicles

PRIMARY DAILY ORIGINS AND DESTINATIONS OF TRAFFIC LEAVING LIBBY ON U. S. HIGHWAY 2 WEST

(Shows only Locations with 10 or more Trips)

Origin (From)	Destination (To)	Total Outbound Vehicles Per Day
Libby	Troy	419
Libby	Idaho	225
Libby	Lincoln County rural area	80
Libby	Bull Lake	39
Libby	Savage Lake	25
Libby	Missoula	12
Kalispell	Idaho	98
Kalispell	Troy	17
Glacier Park	Idaho	28
Libby Dam	Troy	25
Whitefish	Idaho	24
Cut Bank	Idaho	14
Eureka	Idaho	14
Many Glacier	Idaho	14
East Glacier	Idaho	10

Total 24-hour Volume - 1,248 Vehicles

TABLE 48

PRIMARY DAILY ORIGINS AND DESTINATIONS OF TRAFFIC LEAVING LIBBY ON STATE HIGHWAY 37, 2-1/2 MILES NORTH OF LIBBY

(Shows only Locations with 10 or more Trips)

Origin (From)	Destination (To)	Total Outbound Vehicles Per Day
Libby	Libby Dam	654
Libby	Lincoln County rural area	339
Libby	Burlington Northern R. R. tunnel	67
Libby	Rainy Creek (Zonolite Plant)	60
Libby	Eureka	32
Libby	Warland	26
Libby	Flathead County rural area	15
Libby	Rexford	12
Idaho	Libby Dam	23
Idaho	Eureka	11

Total 24-Hour Volume - 1,389 Vehicles

As would be expected the predominant destination for outbound traffic on State Highway 37 was Libby Dam with 654 vehicles making the trip from Libby to the dam site. Rural areas in Lincoln County attracted 339 of the outbound trips at this station.

Of the total 990 vehicles southbound on U. S. Highway 2, 173 or 17% did not stop in the Planning Area. The remaining 83% either originated in the Planning Area or listed a stop within the area.

Westbound traffic on U. S. Highway 2 had an identical 17% stop-over factor. Of the total 1,248 vehicles through the station, 219 had a last stop within the Planning Area.

Northbound traffic on State Highway 37 had a higher through traffic composition than traffic at either location on U. S. Highway 2. Of the 1,389 vehicles passing through the station, only 88 or six percent (6%) made a local stop.

A grand total of 3,727 outbound vehicles passed through the three (3) interview stations in June 1970. Of this total, 566 or about sixteen percent (16%) either stopped in or originated from the Libby downtown area.

Some general observations can be made from the origin - destination data, that will aid in forecasting future travel characteristics in the Libby area.

Traffic on U. S. Highway 2 to the south is predominantly local traffic with destinations within thirty (30) miles of Libby. Kalispell and Glacier Park are major attractors of trips originating in Idaho or states to the west.

Westbound traffic tends to have longer-range destinations into Idaho and states to the west. This pattern will increase with added recreational traffic due to Libby Dam and increasing recreational development in the Flathead region.

Travel to the north of Libby will change from a worker-oriented character to recreational.

There is a potential for increasing the number of vehicles stopping in the Libby area by increasing the attractiveness of the downtown area and by creating an image with which tourists and shoppers can identify.

PARKING

Parking is one of the most importand land uses in the Central Business District. It makes no difference how attractive or well merchandised a downtown area may be, unless there is a readily accessible and convenient place for the shopper to park the downtown will likely see many of the functions transferred to other locations where parking is available. Studies have shown that a parking space located in the downtown area and regulated to make it available for shoppers, can generate up to $10,000.00 per year in retail sales.

Parking Inventory

An inventory was made of all available parking spaces within the area bounded by First Street on the north, Lincoln Boulevard on the south, California Avenue on the west and Montana Avenue on the east.

There were 381 curb spaces within this area. One hundred thirty-seven (137) of these spaces are unrestricted parking and 244 are controlled by parking meters. Of the metered spaces, 241 are 2-hour meters and the remaining three are 12-minute meters.

Offstreet parking in downtown Libby is primarily private or restricted to customer or employee parking. Most of the offstreet parking areas are unmarked allowing vehicles to park at random. Due to the inefficiency of this type of parking, the offstreet parking supply was inventoried based on a field survey of usable space which was determined by observation of regular parking habits in the offstreet areas. The toral offstreet parking supply was determined to be 348 spaces.

Parking Demand

The demand for parking space within the parking study area can be related to the gross square footage of commercial floor space. A healthy downtown should have one square foot of parking area for each square foot of commercial floor area.

The commercial floor space inventory measured the gross floor area of all commercial establishments within the Planning Area. A separate tabulation shows that there are 223,722 square feet of commercial floor space in the parking study area. Of this 22,648 square feet are vacant leaving a total of 201,024 square feet of active commercial space. This converts to a requirement of about 670 parking spaces. The parking inventory determined that there were a total of 729 parking spaces within the parking study area. Of the total 82 spaces are restricted and cannot be considered as available parking. This leaves an adjusted total of 647 available parking spaces in the parking study area. Comparing supply versus demand results in an existing deficiency of 23 parking spaces.

Based upon economic growth projections it is estimated that the parking study area will have 222,000 square feet of productive commercial floor space by 1980 and 259,000 square feet by 1990. Converting these figures to required parking spaces results in deficiencies of 77 and 118 parking spaces for the years 1980 and 1990 respectively.

Parker Characteristics

The primary consideration in the location of new parking facilities is the provision of an acceptable walking distance from parking space to destination. If the walking distance is longer than the prospective parker considers convenient, the result will be increased traffic volumes and congestion as shoppers continue to cruise, looking for a space closer to the desired destination.

Comprehensive parking studies in other cities have determined the actual walking distance for various trip purposes. Table 49 summarizes the results of five of these studies.

TABLE 49

WALKING DISTANCE BY TRIP PURPOSE FOR FIVE SELECTED CITIES

Trip Purpose	Great Falls	Idaho Falls	Helena	Missoula	Billings	Average
Work	336	354	324	612	389	403
Shop	292	380	280	308	359	324
Business	238	337	220	305	253	271
Sales - Service	184	245	185	425	N/A	260
Load or Unload	109	410	209	260	N/A	247
Other	199	194	N/A	299	N/A	231
Average	251	331	247	365	316	289

Sources: Parking Studies conducted in Great Falls, Helena, Missoula, and Billings, Montana and Idaho Falls, Idaho

The average shopper will accept a walking distance of about 300 feet or one city block while the average worker, who will usually remain parked longer, will walk an extra 100 feet. The overall average walking distance is 289 feet. Based on this, new parking facilities should be located within 300 feet of the high demand areas. Long term parking spaces for workers in the downtown area may be located up to 400 feet from the high demand areas. The Comprehensive Plan will allocate sufficient space to meet existing and projected parking needs.

LIBBY AIRPORT

Although the airport is located eight miles south of the city and outside the jurisdictional limits, it is of joint city-county ownership and should be included in the Comprehensive Plan. It is a new site, replacing the old USFS airport on the northeast side of Libby. The airport went into operation in 1969.

The mean elevation of the site is 2,600 feet and mean maximum temperature is 86° F. The runway is 4,200 feet long by 75 feet wide and is designed to handle wheel loads up to 30,000 pounds. There is ample room for expansion and the runway could be extended either way to meet FAA criteria for a General Utility classification of airports. Because of houses and possible road relocation at the north end, it would be more practical to extend to the north.

There are ten (10) permanent based aircraft at the field but no hanger facilities. There is some aircraft parking available on pavement, but it is limited. The site has no administration building nor has it meteorological recording equipment. Particularly lacking are instruments for gathering wind data.

The runway is equipped with lighting and the site has a rotating beacon for night operation, but has no homing devices.

It is recommended that the following improvements be made at the Libby Airport with the priorities as set forth.

Priorities

First Priority:

(a) Construct a new administration building with automobile parking apron.

(b) Install wind recording equipment and maintain a continuous record.

(c) Install a nondirectional radio beacon (NDB) for navigational guidance. If Third (3rd) Level Air Carriers are to resume operations, this will probably be required first.

Second Priority:

Construct new and additional general aviation parking and tiedown facilities. Very limited now.

Third Priority:

Construct additional, but temporary, aircraft parking with tiedowns. Mainly grade to a smooth and rock free surface.

Fourth Priority:

Construct new hanger facilities for leasing.

Fifth Priority:

Extend runway to 4,700 feet. It will then conform to a General Utility classification of airports.